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INDEX.

PAGE

A

Artificial Light ... 27
Actinometer ... 27
A few words to Amateurs on Modern Lenses ... 30
Adhesive Mounts ... 52
Arundel and Marshall's boxes ... 52
Agecroft and Kersal Ramble ... 95
An urgent want ... 102
Alderley Ramble—Cyclists ... 124
Apertures ... 126
Annual Dinner, The ... 170
Aristotype Paper, To Mount ... 176, 216
Alderley Ramble ... 186
Aristotype Paper ... 216
Alum Bath ... 223
Algiers and Constantine ... 240, 288
As others see us ... 245
Annual Exhibition, The ... 262
Alexandra Park ... 271
Architectural Photography ... 275
Aristotype Matt Portraits ... 277
Anglol-quinol Developer ... 293
Arley and Great Budworth Ramble ... 311
Antiquity of Lenses ... 315
Acid Sulphite-Soda ... 316

B

Biddulph Grange, Ramble to... 49
Bromide Paper, Luke Sharp on ... 58
Beach's Developer ... 103
Brook, T. M., Papers by ... 131, 165, 303
Bromide Paper, Enlarging on... 165
Bollin Valley Ramble ... 173
Best Book for a Beginner ... 176
Bromide Prints, Washing ... 176
Beginners, A few prints for ... 179
Backing Plates ... 198, 200, 220
Bromide Paper, Stains and fog on ... 195
Bolton Abbey Ramble ... 212
Bromide Paper, Toning ... 215
Bromide Prints, Fixing ... 223, 295
Bromide Paper, Development for ... 223
Bromide Printing ... 236, 248, 284, 307
Binocular Vision and the Stereoscope ... 251
Bromide Printing instructions ... 270
Brush, A Plate-backing ... 287
Bromide Prints, Exposure for ... 294
Bromide Pictures, Clouds in ... 304
Bleaching Solution ... 318

C

Chapman, J. T., Paper by ... 30
Chemistry of Photographic Exposure and Development ... 54
Cheap and easy way of Enlarging, A ... 73
Camera Extension for Copying purposes... 88
Correspondence... 101, 102, 149, 175, 216, 217, 244, 269, 292, 315
Cracked Negative ... 103
Chester Ramble ... 121
Clapham Ramble ... 122
Composition ... 156

PAGE
Combination Printing ... 157
Clouds in Negatives ... 197
Clear Hydroquinone Stained Negatives, To ... 215
Cleansing Stained Baths, Measures, &c. ... 216
Citrate v. Bromide ... 220
Canvas, Preparation for ... 220
Clearing for Hydroquinone ... 223
Clean Old Negatives, To ... 248
Chadwick, W. I., Papers by ... 251, 300
Colour of Toning Baths ... 261
Cold v. Hot Process in Platinotype ... 319
Clouds in Bromide Pictures ... 304

D Detective Camera ... 27
Diaphragms ... 70
Development ... 71
Developer, A good ... 72
Dovedale Ramble ... 98
Dry Plate Making for Young Amateurs ... 115
Down the Wye with the Camera ... 117
Developing Dishes, Large ... 143
Dinner, The Annual ... 170, 294
Detective Camera ... 199
Developing Experiences ... 207
Development during exposure ... 216
Dark Room Illumination ... 221, 222
Development of Ilford Plates ... 222
Development of Bromide Paper ... 223
Deakin F., Paper by ... 240, 288
Developer for Lantern Slides ... 244, 246
Developer ... 247
Detective Work ... 294
Dropping Bottles ... 295
Development of Dry Plates ... 300

E Enlarging, Some Remarks on ... 14
Exposure, On ... 69
Enlarging, a cheap and easy way of ... 73
Enamelling Chloride Prints ... 116
Editor, Papers by the ... 133, 159, 236, 262, 284, 307
Enlarging without a Condenser ... 150
Error in Exposure ... 151
Exposure of Lantern Plates ... 151
Enlarging on Bromide Paper ... 165
Exposure by rule of thumb ... 216
Eikonogen ... 223, 244
Exposure and Development ... 227
Exposure in Miller's Dale ... 278
Exhibition, The Annual ... 262
Eikonogen Developer ... 314

F Focussing Cloth, A useful ... 8
Farnworth, A. C., Paper by ... 14
Fogged Plates ... 28
Flash Photography at night ... 35
Films, On Gelatine Sensitive ... 90
Faded Negatives ... 126
Furnell's Shutter ... 127, 199, 224
Focussing Screen ... 196
Frilling, To prevent ... 215
Fixing, Loss in ... 222
Frilling in Development ... 222
Ferrous Oxalate for Bromide Paper ... 246
Ferrous Sulphate, Discolored ... 295
Focussing ... 295
Furnivel's Camera ... 295

PAGE

G Gawsworth Ramble ... 23
General Notes... 29, 53, 81, 107, 129, 153, 177, 201, 225, 249, 273, 297
Gilmore, R. O., Paper by ... 35
Gelatine Sensitive Films ... 90
Glass Stoppers ... 146
Gelatinography ... 308
Glass Stoppers ... 146
Gelatino-Chloride Paper ... 175
Gelatine, Soft ... 246
Guide Book to Views, A ... 315
Green Glass for Weak Negatives ... 318

H Healey Dell Ramble ... 24
Hypo-Eliminator ... 27
How to use the Library ... 39
Hawkstone, Ramble to ... 51
History of a Lantern Slide ... 83
Hydroquinone Developer ... 103
Hanmer, J., Paper by... 117
Hydroxlamine ... 126
Hydroquinone ... 133, 159
Home Sensitized Silver Paper ... 135
Hebrides of Scotland, Photographic Trip to the ... 142
Holford Hall Ramble ... 190
Halation ... 198
Harrison, A. C., Paper by ... 207
Hydroquinone Development ... 210
Haddon Hall Ramble ... 213
Hydroquinone Developer, Thomas' ... 220
Hydroquinone, Clearing for ... 223
Hyposulphite of Soda... 224
How to reduce Silver Prints ... 270
Holland, A Scamper in ... 281
Home-made Apparatus ... 286, 309
Hospital Fund, A Photographic ... 292
Hydro-Eikon-cum-Soda Developer ... 303
Historical—Ourselves ... 306
Hand Camera for Eastman films... 309

I Improvement and Retouching of Landscape Negatives ... 3
Instantaneous Photography at night ... 35
Instantaneous Work ... 70
Intensification, New Method of ... 195
Interiors, Exposure for ... 294
Ilford thin glass plates ... 294
Intensification by Hydroquinone ... 315
Intensification ... 320

ILLUSTRATIONS :—

Landscape Photography ... 12, 13
Lenses ... 30, 33, 34
Reducing Frame for Slides, &c. ... 59
Portrait of the Rev. H. J. Palmer, M.A. ... 105
Rocking Shelf... 286
Plate-backing Brush ... 287
Hand Camera for Eastman films ... 310

J Jones, J. G., Papers by ... 109, 138, 182
Jones, J., Paper by ... 115
Jumeaux Developer ... 295

K Kershaw's Shutter ... 104
Kersall Hall and Cell ... 102, 149
Kodak Cameras ... 295

L Landscape Photography ... 9, 37
Lantern Slides, On... 15, 41, 59

PAGE
Lenses, A few words to Amateurs on modern ... 30
Library, How to use the ... 39
Luke Sharp on Bromide Paper ... 58
Lantern Slide. History of a ... 83
Lancaster's Lens ... 103
Lymm Ramble ... 119, 191
Lenses ... 126, 200, 224
Large Developing Dishes ... 143
Lower Peover Ramble... 174
Landscape Plates ... 199
Liquid Glue ... 215
Local Views ... 220
Loss in Fixing ... 222
Litmus Paper ... 223
Lantern Slides, Developer for ...244, 246
Lens, Wide Angle ... 246
Lantern Slides, Clearing, &c.... 247
Library ... 247
Luminous Transparencies ... 269
Lenses, Optimus and Lancaster's... 271
Light in Dark Room ... 296
Llanfairfechan ... 296
Lees, J. T., Hand Camera ... 309

M Manchester Amateur Photographic Society 2, 46, 75, 100, 147, 193, 218
Middlewood Ramble ... 27
Memoranda from my reading and practise ... 69
Moreton Old Hall Ramble ... 98
Metabisulphite Developer... 99
Magic Lanterns and Dissolving View Apparatus ... 109, 138. 182
Matlock Bath Ramble... 120
Miller's Dale Ramble ... 123
Mc.Kellen's Detective Camera ... 125
Mounts ... 144
Mountant ... 151
Mounting ... 151
Marple Ramble ...212, 311
Miller's Dale, Exposure in ... 278
Members, Number of ... 294
Members, Nomination of ... 295

N Newman's Shutter ... 127
New Method of Intensification ... 195
North Wales ... 296

O Our Society ... 2
Our Wide Angle Lens 27, 52, 79, 124, 150, 195, 215, 244, 269, 293, 316
Orthochromatic Plates ... 28
Optimus Lens ... 28
Old Paintings, Portraits in imitation of ... 68
Old Manchester and Salford ... 149, 175, 217
Obernetter Paper, Mounting ... 221
Obernetter Gloss ... 221
Oil for Optical Lantern ... 223
Old Negatives, To clean ... 248
Ourselves ... 254, 306
Optimus and Lancaster's Lenses ... 271
Opals, Tinting ... 318

P Preface ... 1
Palmer, M.A., Rev. H. J., Papers by ... 8, 90, 203, 240
Pyrogallic Acid... 51
Paint for Skies ... 51
Photographic Exposure and Development, Chemistry of ... 54
Port Erin, A week's holiday at ... 66

PAGE
Pingstone, G. A., Paper by ... 54
Portraits in Imitation of Old Paintings ... 68
Photographing various subjects, On ... 69
Printing ... 72
Photophane ... 89
Photographic Exhibition, A suggested ... 101
Palmer, M.A., Rev. H. J., Portrait of ... 107
Platinotype Printing ... 131
Painting Photographs ... 137
Photographic Trip to the Hebrides ... 142
President's Address, The ... 155
Points for Beginners, A few ... 179
Paris ... 198
Pizzighelli Paper ... 199
Permanent Toning Bath ... 196
Plates, Comparison of ... 200
Philanthropic Photography ... 203
Photography in Bottles ... 209
Photography on the Continent ... 211
Preparation for Canvas ... 220
Pyro ... 222
Platinotype Cold Process ... 224
Preserve Mountants, To ... 244
Photographic Survey of Manchester and Salford ... 255, 279
Photographic Survey of Manchester, A ... 259
Photographing in Peel Park ... 270
Plate-backing Brush ... 287
Photographic Hospital Fund, A ... 292
Platinotype, Cold v. Hot Process in ... 319

Q Question Box ... 28, 51, 103, 126, 175, 197, 220, 246, 270, 294, 319

R Retouching, &c., of Landscape Negatives ... 3
Rostherne Ramble ... 25
Reducing Agents ... 28
Reduction of Drawings to scale ... 45
Rigby, G. H., Paper by ... 73
Radiometer, Crooke's ... 126
Regulating Valves ... 152
Ramble Season, Next ... 244
Reducing Camera for Lantern Slides ... 248
Ramble Season, The ... 269
Reduction of Silver Prints ... 270
Rocking Shelf, A Simple ... 286
Ryhl and Llanfairfechan ... 296
Reduction of Negatives ... 318

RAMBLES :—
- Worsley ... 22
- Gawsworth ... 23
- Healey Dell ... 24
- Rostherne Mere ... 25
- Middlewood ... 26
- Biddulph Grange ... 49
- Hawkstone ... 51
- Agecroft and Kersall ... 95
- Moreton Old Hall ... 96
- Dovedale ... 98
- Lymm ... 119
- Matlock Bath ... 120
- Chester ... 121
- Clapham ... 122
- Miller's Dale ... 123
- Alderley ... 124, 186
- Bollin Valley ... 173
- Lower Peover—Cyclists ... 174

PAGE

  Valley of the Irwell ... 186, 314
  Holford Hall and Lower Peover ... 190
  Lymm and Warburton—Cyclists ... 191
  Marple... ... 212, 311
  Bolton Abbey ... 212
  Haddon Hall 213
  Arley and Great Budworth ... 311

S Stephen, J. H., Paper by... ... 45
Stained Prints ... 126
Shutter Speed ... 127
Starch 151, 160
Survey of Manchester and Salford, A Photographic ... 172
Stereoscopic Mounts ... 197
Stains and Fog on Bromide Paper ... 195
Scrap Books for Hospitals ... 206
Stained Negatives, To Clear ... 215
Stained Baths, &c., To Clean ... 216
Stains on Prints, Yellow ... 222
Steventon, T., Paper by ... 527
Scenery and Cities of Southern France ... 240
Shutter ... 247
Silver Prints, How to reduce ... 270
Scamper in Holland, A ... 281
Sale and Exchange... ... 28, 52, 80, 104, 127, 248, 271, 320
Stains on Bromide ... 320

T Tylar's Specialities... ... 27, 52
Tissues ... 28
Table of Discs for Lantern Work... ... 185
Toning Formula ... 198
Toning Bath, Permanent 196
Title on Negatives 197, 271
Toning Bromide Paper ... 215
Toning Bath 222, 318
Transferotype ... 223
Two hours abroad ... 240
Tylar's Window Shutter 247
Toning Bath, Color of... ... 261
Tinting Opals ... 318

U Useful Focussing Cloth, A ... 8
Use of Diaphragms, The 70

V Varnish for blacking brass work ... 68
Valley of the Irwell Ramble ... 186, 314
Vignetting ... 319

W Wilson, R. B., Papers by... ... 15, 41, 59
Worsley Ramble ... 23
Week's Holiday at Port Erin ... 66
Whitelow, E. T., Paper by 135
Wheeler, G., Papers by (also see Papers by Editor) 3, 88, 144, 172, 304
Wade, J. W., Papers by ... 9, 37, 66, 83, 157, 275, 281
Water-developing Dry Plates ... 181
Ward, E., Paper by 210
Wash Negatives quickly, To ... 215
Wide Angle Lens ... 246
Washing Operations ... 254
Wilcock, J., Paper by... ... 255
Weak Negatives, Green Glass for ... 318

Y Yellow Stains on Prints ... 222
Yellow Stains in Negatives ... 296

Z Zinc Trays ... 28

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CONTENTS

Page
Preface 1
Our Society 2
The Improvement and Retouching of Landscape Negatives 3
A Useful Focussing Cloth 8
Landscape Photography 9
Some Remarks on Enlarging 14
Lantern Slides 15
Sale and Exchange... 28
Page
Manchester Amateur Photo. Socy. Monthly Meetings 20
Rambles :—Worsley 22
Gawsworth ... 23
Healey Dell ... 24
Rostherne 25
Middlewood ... 26
Our Wide Angle Lens 27
Question Box 28

Preface.

IN laying before our readers the first number of the *Photographic Record*, we cannot but be conscious of its many shortcomings. We trust, however, that the encouragement we have received will smooth away the many difficulties inseparable from the commencement of so important an undertaking.

In this, as in everything else, "Union is strength," and we hope that every society, in and around Manchester, will see in this, an effort to utilise its work, and to draw closer together the votaries of the pleasing Art of Photography.

The practice of the Art, by Amateurs, is popular and ever increasing, while the marked advances made by Photography, during the last few years, into the realms of scientific work, renders it now indispensable for the purposes of scientific record.

The idea of a magazine for Manchester and district is not a new one, in fact the want has been long felt, so that while primarily the organ of the Manchester Amateur Photographic Society, the *Photographic Record* will contain as far as possible the proceedings of other societies, together with papers and communications read before their meetings. By this means, much of the valuable work of our local societies may be preserved. We cordially invite the Secretaries of our Northern Societies to send us data and reports of their proceedings.

Notes on Photographic Novelties, &c., under the heading, "Our Wide Angle Lens," also "Notes on our Book-shelf" will, we hope, add interest to its pages; while the Question Box, Sale and Exchange, and Correspondence columns will prove useful to many.

In launching our barque, we ask the hearty co-operation of one and all of our readers, assuring them, that on our part, no effort will be spared to make the magazine fully merit its title as *The Photographic Record* of Manchester and district.

In consequence of pressure of matter we have been compelled to increase the first number of the Magazine by four pages. This must be considered an exceptional number.

Our Society.

ALTHOUGH founded so recently as 1885, the Manchester Amateur Photographic Society rivals in numbers, vitality, and efficiency many similar institutions of far greater age.

The chief promoters of the society were Messrs. R. Graham, S. F. Flower, J. G. Jones, and W. W. Dawson, who, as its success has since proved, came to the conclusion that there was ample room in Manchester for another photographic society of a more popular character, and with a lower subscription than any of its predecessors.

The first meeting, at which thirty-eight gentlemen were present, was held in the Technical School, Princess Street, upon April 14, 1885. The Rev. H. J. Palmer, M.A., being voted to the chair.

Upon the motion of Mr. W. W. Dawson, seconded by Mr. Thos. Harrison, it was unanimously resolved to form an Amateur Photographic Society. Rules were submitted to the meeting and officers for 1885 were elected.

The first Council was composed of the following gentlemen :— President—Rev. H. J. Palmer, M.A. Vice-Presidents—Messrs. A. Gamgee, M.D., & Jno. Tatham, M.D. Treasurer—Mr. J. G. Jones. Librarian—Mr. Robt. Graham. Committee—Messrs. Jno. Bathe, Hy. Champ, W. W. Dawson, A. W. Duncan, S. F. Flower, T. Harrison, A. Hay, W. Lane, T. Widdop, H. G. Williamson. Hon. Sec.—Mr. Wm. Stanley.

The first annual report was issued January 26th, 1886, and showed that 112 members joined the Society during the year; five resignations, from removal, took place, leaving 107 members on the books.

The low subscription, 5/-, as foreseen by the promoters, was fully ample to meet all expenses. The year 1886 being commenced with a balance in the hands of the Treasurer of £3 9s. 1d.

Very great interest was taken in the meetings by the members, and the papers and exhibits at the various meetings were exceptionally good.

Twelve rambles were organized and a very fair nucleus of a library formed.

The second report, presented January 25, 1887, congratulates the members on the continued progress and increasing usefulness of the Society, as shown by the number of members on the books, viz. 159, and that the subscription had enabled them, in addition to rent, printing, &c., to provide a book-case, for the rapidly increasing library, a copying apparatus for the Secretary, and to pay the expenses incidental to a soiree and exhibition of members' work, which was held in the Manchester Athenœum, George Street, December 18th, 1886, over 400 members and friends being present.

The Society also possesses its own lantern and screen for the private use of its members. This is the gift of Mr. S. F. Flower.

During the year 1886, in addition to the ordinary meetings, fifteen excursions were arranged, and also five lantern exhibitions held.

The gentlemen composing the Council for that year, were as follows :—President—Rev. H. J. Palmer, M.A. Vice-Presidents—Messrs. T. Harrison, F.C.S. and Jno Tatham, M.D. Treasurer—Mr. J. G. Jones. Librarian—Mr. R. Graham. Committee—Messrs. Jno. Bathe, Jas. Blair, A. W. Duncan, S. F. Flower, A. Hay, W. Lane, G. H. Rigby, Wm. Stanley, T. Widdop, R. B. Wilson. Hon. Sec.—Mr. F. W. Parrott.

The Improvement and Retouching of Landscape Negatives.

By Geo. Wheeler.

Paper read before the Society, June 14th, 1887.

AN old proverb says, "There is a skeleton in the cupboard of every house." Every photographer knows the truth of this assertion, with the qualification that the number is *ad libitum.* What inward groanings these skeleton negatives cause when they are turned over. We look at their dry bones, and say, "How came I to make these wretched blunders. Whatever shall I do to improve them?" We examine them anxiously, and then, with a feeling of disgust, push them hurriedly back again into the cupboard, out of sight, and feel inclined to go out and throw stones at something. These ugly productions, however, serve one good purpose. When we have secured a few good negatives in succession, we are liable at times to feel tall and assume artistic airs. We are almost ready to shake hands with ourselves, and institute a mutual complimentary society. That is the time for the photographer to go to the cupboard and steady himself by a look at the skeletons. He will come back, "a wiser and a sadder man." But, notwithstanding the teaching quality they possess, our recommendation is, bring them out into the light and *mend them, or end them.* It is not altogether the fault of the photographer that he should so often fail in his attempt to obtain a good picture. When we consider that he cannot control the light, or the position of intervening objects, and that color effects his work very materially, we need not wonder that the result is often unsatisfactory. Even with the best apparatus, the purest of chemicals, and careful manipulation ; the light, position and color will affect his productions, and must be contended against in some form or other.

But let us consider these faulty negatives, observe their weak places, and if we cannot make these dry bones live, we may at least improve their gaunt features. The weakness most prevalent is thinness of the image on the film. This is usually produced by over exposure, or under development, and generally, little more than a flat print, lacking contrast, can be obtained from it. This we must endeavour to remedy. If the details of the subject are shown in the negative, it may be greatly improved by intensification. In some cases, such as interiors, where strong contrasts are a decided objection, this treatment will often produce a pleasing negative, giving a soft and gently graded picture. In addition to this, some of the high lights may be strengthened by a few touches carefully made with a pencil.

The formula for intensification is well known and need not be given here, but the strong point to be observed is to see that the plate is thoroughly freed from hypo. This is best done by placing the negative under the tap, allowing the water to fall with force upon the film, so that it beats or drives the hypo out of the gelatine ; also, it may be eliminated by placing the plate for a few minutes in a solution of one part of sulphuric acid, or chlorinated soda and forty or fifty parts of water, and afterwards washing under the tap.

Local intensification may be performed by going over the part requiring treatment with a brush charged with water, first round the margin and then filling in the centre. When this has soaked the film, it may be treated with the mercurial solution applied in dips with the brush until bleached, and finished in the ordinary way. Of course, the plate should be kept horizontal, so that the other portion of the film may not be affected, and if possible, the light should be allowed to pass under the plate.

Negatives that are too dense, or give harsh contrasts, may be easily reduced and brought into working order by the application of chloride of lime, or bleaching powder. It should be obtained as a dry powder at the chemists, and a pennyworth will work wonders. Place a little of this in a wide mouthed bottle or vessel, and pour sufficient water upon it to make a solution as thin as milk. It must not be too strong. Stir it up with a stick. Then allow it to settle until clear water, impregnated with the chloride, forms at the top. This clear liquid is the portion to be used. It may also be obtained by filtering the solution. After the negative has been soaked in water a few minutes, place it in the above solution. In one minute it will have been visibly reduced and should be washed at once. If one dose is not sufficient give it a second. Fresh solution should be mixed each time, as it will not keep. Local reduction can be performed by applying the liquid, to the part requiring it, with a camel hair brush or mop. By holding the plate with its back to the light, the extent of the operation may be plainly observed, and kept fully under control.

The prints which I now pass round illustrate the methods just described for reduction. No. 1 and 1a, the interior of a fernery, are two impressions from the same negative, before and after treatment. It will be seen from No. 1 that the subject is extreme light and shade. The upper portion near the glass roof is brilliantly lighted, while the lower part is dark rocks overshadowed by tree ferns and dense foliage. In order to obtain some detail on rocks in the lower part, the development had to be forced to such an extent that the upper portion became very dense, so that the light could not penetrate it after two days' exposure in the printing frame. No. 1a shows the effect after local reduction. No. 2, "Wardley Hall," is an impression from the negative in its original state. The dark slide has opened at the corner joint and admitted the light, so that the negative appears to be hopelessly spoiled. In No. 2a the error has been rectified. It also exhibits other improvements. The unshapely reflection in the water of No. 2, which is produced by some object behind the trees, has been erased by a knife and made to disappear. Also the reeds in the foreground, which had moved during exposure, have been touched up with the pencil and strengthened.

Another plan to reduce portions of a negative giving harsh contrasts, or suffering from halation, is to use methylated spirits. A soft piece of chamois leather is stretched over the ball of the finger end and dipped into the spirit. It is then rubbed upon the parts requiring treatment, repeatedly changing the leather. This rubbing process carries away a considerable amount of black matter from the film, but it is slower in its action than the chloride of lime, and there is considerable risk of injury to the film. Ink eraser and the finest glass sand paper may also be mentioned as serviceable, if used with care, for some forms of reduction. Where spots, or sharp lines are to be removed, nothing is so effective as a sharp knife. If in the form of an ink erasing knife, with lancet shaped blade, it will be found most useful. To remove objectionable features from a negative, the knife should be used very gently, just sufficient to lightly scrape the top surface of the film, without cutting through to the glass. The point will also be found useful for the purpose of strengthening tufts of grass or rushes in the foreground, which may have moved during exposure. We may here add the caution, "Do not overdo it, or the cure may be worse than the sickness." All retouching is better underdone than overdone, and though the plate may be very bad, "deal gently with the erring one."

Another form of improving the printing quality of a negative is by masking certain portions which otherwise print too quickly and require holding back. A negative may have clouds in it, but the sky is too dense to print them out except by overprinting the other portion ; or a landscape may have extreme light and shade on it, to such an extent, that it ought to have two different exposures to obtain it rightly, unless by some other means we can overcome the difficulty. To do this, a mask is placed at the back of the negative to restrain the quick printing portion. A good material for this purpose is vegetable parchment, which may be obtained at most stationers' shops, under the name of jam pot covers. It is translucent, and having a firm texture, is capable of being cut to any given shape with ease. The mask is made by making a tracing of the part or parts to be held back on the vegetable parchment with a pencil. If the negative is held towards a light, say against a window, it is done very quickly. When cut to the shape required, it is attached, at one or two points, to the back of the glass, with gum or any suitable medium. The thickness of the glass intervening between the film and the paper, is sufficient to diffuse the light before it reaches the sensitized paper, and, as a consequence, the edges are printed comparatively soft. The back of the paper may also be marked by a pencil or stump, if a greater intensity of opaqueness is required at any point. It will be found useful when a negative lacks contrast; for instance, a sheet of water, with a ripple on the surface, may have a monotonous regularity about it, much after the fashion of a new ploughed field ; if it is made to print lighter from one side, with a nice gradation, the picture will look much more pleasing to the eye. In the same way, a bridge may be made to stand out from a dark background, or, a distant hill may be softened, giving a better contrast to the middle distance of the picture, helping the perspective, and, at the same time, produce a more real representation of the scene than the photograph otherwise would have done. The prints now laid before you have been treated as described.

The addition of clouds add considerable improvement to a photograph. A whitewashed sky is not at all artistic, and it is better to expose the upper part of the print to the light for a minute or so, if the negative has proved so dense as to obstruct all traces of an atmosphere. Clouds may be added by a second printing from a cloud negative, or by drawing them on the back of the negative in water colors, or tufts of cotton wool may be used, but as the subject would find matter sufficient for a special paper at some future time, we will dismiss it now by saying, dont "wait till the clouds roll by," but capture them and utilize them.

Retouching by the pencil and brush is sometimes necessary. For this purpose a retouching desk is needed, a simple form of which I now submit to you. Besides this, a retouching medium—H, HB, and B pencils of a good quality, a fine sable brush, and a few penny cakes of water colors, such as sepia and neutral tint—should be obtained. Retouching cannot be done successfully on the naked film, as it is too smooth and considerable risk attends the operation. A roughness or tooth is required to take the pencil marks, and to obtain this, a medium is applied, either on the film, or on its varnished surface. A retouching medium may be made by dissolving 10 grains of clear resin in 1 oz. of benzole, allowing it to subside for a day or two before using. Another formula is 1 oz. of cuttlefish powder dissolved in 3 oz. of spirits of turpentine, or, if preferred to purchase a ready-made preparation, Ellis's "Paragon retouching medium" will be found very useful for the purpose. The extra hard pencils which are used for portrait retouching are of little use for landscapes. Firm strokes are mostly required and HB and B are best suited for the purpose.

We may lay down the following general principles for retouching with the pencil or brush. First: that extreme distances ought never to be touched, or the atmospheric effect will be interfered with. Second: middle distances should receive special care, always bearing in mind that it ought to be the strong feature in the landscape, giving breadth to the picture. Third: that the foreground is the best place for retouching with effect. The reason for this is, foregrounds require extreme light and shade, and this is where, in an artistic sense, otherwise good photographs usually fail; they lack boldness and vigour in the foreground. We cannot enumerate in detail the points in a negative where the pencil or brush may be used with good results, but we may name a few. Small objects which have been overshadowed by larger, such as a boat moored by overhanging rocks, may be made to reveal itself by a line along the upper edge, or down the prow, where the light usually catches it; or a cottage lost in the trees which overshadow it, may be brought out by a few judicious touches on the roof, or gables. Rushes that may have moved, as they usually do during exposure, may be improved by a few bold strokes; wood fences in the foreground may be improved by increasing the line of light which falls on them; old magpie buildings that have not lately been smartened up, and which may have been photographed the week before the painter took them in hand; but a little work with the pencil will balance the position. Rocks, stones, stumps of trees, &c., may all be dealt with if care is used, and the work is not overdone.

Bring out your cripples! Help them to walk; either mend them, or end them.

A Useful Focussing Cloth.

By Rev. H. J. Palmer, M.A.

THE focussing cloth is an adjunct to the impedimenta of the peripatetic amateur photographer, which, if he could, he would willingly dispense with. He is compelled to dispense with it at times, when he finds on his arrival at the scene of his photographic action, that his cloth has been left at home, or else has been whisked away from his possession, by an unfriendly puff of wind. Some of my photographic acquaintances, in commenting on the numerous yards of velvet, formerly belonging to myself, which have been lost in my photographic expeditions in every direction, both at home and abroad, have remarked hyperbolically, that I have strewn the surface of Europe with focussing cloths. With the view, therefore, of avoiding similar losses in the future, I have devised a use for this part of our paraphernalia, which will, on the one hand, add to the value and usefulness of the focussing cloth, and so render us less careless of its safety, and less liable to leave it behind us on our photographic excursions; and on the other, will give it a little more substance and stability, without materially increasing its size and weight, and so prevent it from being blown off our heads, down a mountain slope or precipice, or into the river or ocean depths, at the critical moment of adjusting the focus to a nicety.

My journeying this year among the peaks and passes and glaciers of Switzerland, promises me an unusual amount of walking and climbing, and, as I wish to be independent as well of porters, as of extra double slides and changing boxes, I have turned my focussing cloth to account, and have made it into a most useful changing bag. This enables me to carry on my own shoulders, a stereoscopic camera with one slide, and a box or two of plates in my pocket, to suffice for two or three days' photographic work, at a distance from head-quarters. My cloth is made of double black satteen, 1¼ yards long by 1 yard wide; 20 inches of the length have been folded over and sewn at the corners to the material below, so as to form of the whole an oblong bag, open at the ends, and open also at the lower side, with a few inches of material projecting beyond the bag as a tail-piece to flap under the opening. The two open ends have next been gathered into short sleeves, each sleeve containing two bracelets of silk elastic a couple of inches apart. Thus any light which filters through elastic No. 1, is prevented by No. 2 from entering the bag.

Nothing could be simpler or more effectual than the mode of using the focussing cloth for the purpose I have named, and I will just demonstrate its practical utility by changing some plates before you. The bag is laid on any convenient surface on the way-side, and in it are placed the slide, the box of plates, a folded piece of yellow paper to enclose the two plates removed from the slide, and a brush for the surface of the unexposed films. The tail, so to speak, of the cloth is doubled under the bag, to close the opening at the bottom, and render it light tight. The hands are inserted at the sleeves, and the plates removed from the slide and slipped into their paper case to prevent the possibility of their reinsertion in the slide. These are placed under or by the side of the slide. The unexposed plates are removed from the cardboard box in which they are sold; possible dust-particles are brushed from their surfaces, and they are then inserted in the slide. The exposed plates are now put at the bottom of the cardboard case, the unexposed films upon them, the slide and box are carefully closed, and we are ready for a couple more pictures. I have tested my bag in bright sunlight; and, as you will see from the negative I pass round (which has gone through the ordeal of my bag), there is no danger of fogging the sensitive films.

Thus, with the expenditure of a few pence and a little kindly needlework, on the part of the photographer's wife or sister, the amateur will find himself in possession of, what I venture to call, an exceedingly useful focussing cloth.

Landscape Photography.

By J. W. Wade.

Paper read before tho Society, January 11th, 1887.

THE title of my paper, "Landscape Photography," is one that covers a very large area and would form subjects for many other papers; but, to-night, we shall confine our attention to artistic photography as applied to landscape.

Landscape Photography.

The struggle of Art versus Photography was in the early days long maintained, but gradually a partnership, or rather an amalgamation was established, and now (with occasional separations), is well sustained. The credit of this amalgamation is due, I think, to the educational teaching of photographic societies, and, in a great measure, to the ease with which the different manipulations of our gelatine plates are conducted.

I now look back with thankfulness to the time when I made my first dry plate, nearly 20 years ago. The mess, the trouble, and the failures in those days, were enough to make one throw up the whole thing in disgust. This I did for a few years, after spoiling many of my landlady's carpets, towels, &c. When we did get a photograph, what matter whether it was an artistic one or not, so long as it was technically good ; but now, all is changed, for the only trouble, in preparing for a day's outing with the camera, is to fill the dark slides with dry plates, or the rollers with films, and all is ready, leaving our energies free for picture making. But this very convenience sometimes prevents us from obtaining artistic photos, inasmuch as we are rather apt to be careless, shooting here and there and everywhere, trusting to chance to bag one or two pictures during the day.

I suppose that in our society there are many beginners, or learners in the photographic art, and it is to them that this paper is mainly addressed ; the object being to give a few hints, and lay down some rules, by which their first steps may be guided. Many may object to the word "rule" being applied to art. There are many, however, who are now taking up photography as a pastime, but who have little idea as to the requirements of picture-making, and to these some guiding rules are indispensable. A glance round the walls of the Athenœum Lecture Hall last month, showed that others are fortunately endowed with a gift, which has been called, "quick appreciation of beauty."

They, untrammeled by any rules, see at a glance if a certain view will make a picture, but the result will be influenced by the care and intelligence the artist uses in the details of the manipulations. From dusting the plates, to mounting and rolling the prints, nothing must be left to chance.

The point of sight, or rather the position where to plant the camera, is perhaps the most important of our operations, and one that should not be done hurriedly. The subject should be viewed from all points before deciding to uncap, for often the difference of a few feet will spoil an otherwise good photograph.

As to the choice of subject, much will depend on the taste of the artist, for, in photography we have not the same range of adaptability as the painter, although much can be done to modify certain "defects of nature," if I can call them so, by artful dodging in the exposure, developing and printing.

Having decided upon our point of sight, we must now fix upon the position of the horizontal line. This varies with the height from which the picture is taken, therefore, if we wish to represent a scene taken from a mountain side or top, the horizon should be placed, say nearly three-fourths from the bottom; but, if the picture is taken upon level ground, rather less than half of it should be given to the landscape below the horizon, above that line a portion may be filled in with mountains, trees, &c. A foreground possessing some interest should, if possible, be introduced into our picture, then the horizon might, with advantage, be kept up quite half the distance from the bottom.

In order that the composition may exhibit a pleasing effect, there should be an avoidance of a number of straight lines, or any lines which repeat themselves, as well as any line running through the picture, either vertical or horizontal. The placing of a principal object in the centre of a picture, must be avoided, also objects of the same size or quality at each side of the picture. When a building is introduced into the landscape we often have a number of straight lines, but, an attempt should be made to break them up by means of a tree, or other objects, or by taking them at a certain angle. We make them of different lengths, which modifies the uniformity, as in the case of a long wall, hedge, &c., running out of the picture. It is sometimes advisable to vignette, and while mentioning the subject of vignetting, I may just say that when we want to give the idea of unrestricted space, such as an open mountainous view, or a seascape, vignetting is more advantageous than using a shorter focus lens, for, having no defined line, the imagination is carried on past the border of the picture. Wide angle lenses should be used very sparingly. It is rather a temptation to the beginner to include a large amount of subject in his picture, with the consequent apparent distortion of the perspective; for I may say, at the expense of truth, that the retina of the eye does not take in more than the angle of 60° without moving the head, and our pictures should not include a wider angle than this. The most pleasing and artistic pictures being taken by a lens, the focus of which is about the same length as the diagonal of the plate used.

Care should be taken not to get more than one picture on one plate. By this, I do not mean a plate exposed twice—that is carelessness—but where we have two points of interest in the picture; as an instance, I may mention a river and a road, side by side, perhaps separated by a row of bushes. The river would make a picture, and the road would make a picture, but when taken together, with the bushes in the centre, the eye has nowhere to rest, and we turn from such a picture dissatisfied.

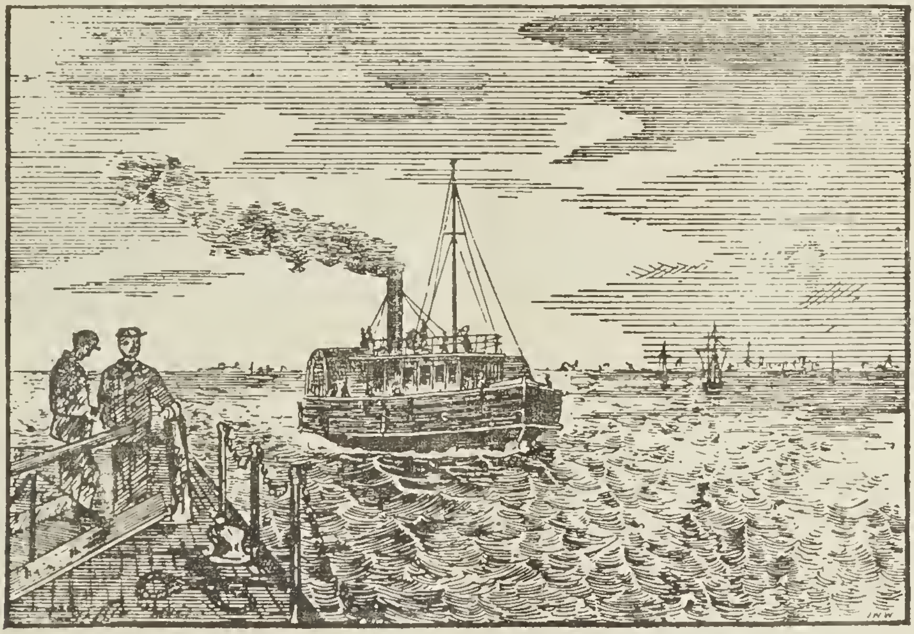
The expression of distance should have a certain amount of attention. Some pictures, especially when projected by the lantern, seem to have an apparent relief. This is sometimes due to an arrangement of light and shade, but often to the fact, that the distance is out of focus, while the foreground is sharp and clear. The eye, we all know, has the power of focussing on near, or on distant objects, but it has not the power of seeing clearly near and distant objects at the same time, proving the fallacy of small stops and the swing back for the purpose of getting near and distant objects in focus. Of course, I am now speaking of artistic photographs. There are exceptional cases where the use of a swing back, or a small stop is necessary.

How very rare it is, that the tyro in photography, when taking a picture, thinks of the importance of obtaining a balance of light and shade, which, if not attended to, will destroy the pictorial effect. What then are the essential qualities of light and shade, and how must we apply them? The advice I gave to exercise care in choosing the point of sight, also holds good in studying the balance of light and shade, only, we must, if possible, use a little more patience, for should the light prove not to be in accord with the sentiment of the scene, we must either wait until it is, or visit the place another day.

The most perfect example of shading is that of an egg, as shown in the diagram, the light falling on the upper portion. Let us then take this as a basis, which can be modified to suit the subject, although, of course there are some subjects where this treatment is not applicable.

In the egg we have our deep shadow gradually getting lighter as it approaches the high light. Thus we have two masses of light and shade about equally balanced, and upon the general arrangement and size of these two masses depend the character of the scene we wish to reproduce. Should it be a picture of repose, such as a lake on a calm summer's day, we should keep the mass of light, and that of shade, far apart with gradations between.

A scene of activity, such as is found among our pictures of shipping, should have a different treatment. The two masses would then be brought nearer together, so that we get a sharp contrast still keeping the broad effect of light and shade. A rough sketch in black and white will perhaps illustrate my meaning.



We must also consider the proportion of these masses. Should we be engaged on a picture, say of Windermere, on a bright sunshiny day, the light would then be the largest mass. But let us be transported to the recesses of the Glyders, where lies the gloomy lake of Idwal, with its precipitous shores, then, our picture must contain plenty of dark shadow with heavy clouds printed in. So far we have dealt with masses of light and shade, but I do not wish it to be understood that they are to remain as masses, they are only the basis, and in most cases should be broken up by their complementary tones. The size and position of these must be left to individual taste, but if too many lights of the same size and quality be introduced into the deep shadow, or *vice versa*, we should have a weak and spotty picture.

(To be continued.)

Some Remarks on Enlarging.

ALFRED C. FARNSWORTH.

ENLARGING, I think, ought to be more popular with Amateur Photographers, as no style of photography is so pleasing as a good enlargement.

A very common size of plate is 8½ by 6½. But if the picture is satisfactory, it looks very small when hung. A whole plate will easily enlarge up to 23 by 17 inches, and looks something when done.

For producing my whole plate negatives, I use a roll holder and Eastman's paper.

The stripping film I consider a mistake, as I have plenty of stripped negatives in which the grain is painfully perceptible.

Now the ordinary Eastman negative paper, if slightly flashed up in developing, so as to keep the image as much on the surface of the film as possible, will not show the slightest grain. The strippers, of course, if treated in this way, will not show grain, but why have the trouble of stripping, if we can have a paper negative without grain.

A paper negative made in the way I indicate, and made translucent with oil vaseline, will enlarge as well as a glass one. I suppose some one will want to argue this, but I would suggest them trying it first.

A rough surface paper is preferable for enlarging upon. Both Eastman's and Morgan & Kidd's papers are very good.

A small stop should be used in taking the negative and in making the enlargment.

Of two negatives taken of the same subject, one with *f*/32 stop, and the other with *f*/64, the latter will make the best enlargement, even if the negatives look equally sharp.

A negative 8½ by 6½ enlarged with a rapid Rectilinear, 10in. focus, stop *f*/32, will take about the same time to enlarge to 23 by 17, as it would take to print on platinotype paper, if exposed outside the enlarging window. This is a rough guide, but it answers well.

Care should be taken not to underexpose bromide paper, because, if the development has to be forced, the resulting picture will be an objectionable blue tone instead of black.

Most landscape pictures require clouds, and they are easily put in. The following method I like the best:—After exposing the enlargement as usual, develope the image only *partially*, then wash the developer off; expose again, putting a cloud negative in place of the original negative, using a cloth to cover the landscape portion. The cloth should, of course, be kept continually in motion.

After the partial development, the bromide paper will be found about half as sensitive as before. The cloud negative having been exposed the development can be finished.

The developing solutions, I make as follows :—

1. Protosulphate of iron, in twenty ounces of *cold* water, enough to saturate, and add three drops of sulphuric acid.
2. Oxalate of Potash, a saturated solution made with *hot* water.

One ounce of the iron, added to four ounces of the potash, is the developer. I use no bromide of potassium, as it tends to make the tone cold.

To obtain a sepia toned print, give twice the normal exposure, and dilute the developer, using one part of developer to two parts of water. Prints, after developing, and before they are washed, should be placed in a solution composed of water forty ounces, acetic acid one ounce.

On Lantern Slides.

By R. B. Wilson.

WHEN I look at the title of this paper, and reflect upon all that has been said upon the subject, particularly of late, and the host of "wrinkles," "tips," and "experiences" of all kinds that have been thrust upon us from all quarters, I almost despair of being able to bring before the Society anything which its members have not heard of and practised, perhaps, a dozen times before. But, though I may not perhaps be as original as I should like to be if my subject were of a more original nature, I hope that I may steer clear of one great pitfall of photo-writers, and not talk nonsense, as many of my predecessors have done, for I am sure that the majority of papers lately, more especially upon the present subject, have been not only unreliable, but absolutely misleading and absurd.

I think that dry emulsion plates are familiar to most of us, and Messieurs. Cowan, Fry, Chapman, and a host of other makers all have their champions. For my own part, I prefer no particular plate, having been uniformly successful with those of all makers.

Contrast the present time with the old days when our beautiful art was as yet only in its infancy, and reflect upon the discoveries which have been unearthed, and the patience and care which have led up to and perfected those discoveries. Truly the photographic mazes now are much easier and pleasant to tread than they were many years ago. When, with the assistance of the necessary, but expensive and often uncertain joiner, I put up my first dark room, (adding dignity to it by calling it a " studio ") and set out, like Don

Quixote, in search of "such (photo) adventures as I might chance to meet with." However, I am not writing a disquisition on photography, but going to try to say something about one special branch of it, and perhaps it will be better for me to plunge at once *in medias res*, and come to the point or points of my paper.

The first process of producing transparencies, whether for the lantern, or of larger size for window and other decoration, which calls for attention, is one which we never hear of now, save, perhaps, from an old photographer, one who practised the Art when it was, as I said before, in its infancy, and the more modern and easier methods were unknown—I allude to the dry plate process with the silver bath, by which very lovely results can be obtained; though, owing to its undoubted difficulty of manipulation, and somewhat uncertainty, unless the greatest care is used, it has been allowed to fall somewhat into disuse. I describe it here as I have done well with it, and should like to see others do the same. I have often thought when looking upon the undoubtedly excellent slides, which I have seen at our society's, and at other exhibitions in the town, that it is a pity that specimens of every process could not be seen at one show ; and I think that an amateur photographer is a poor and flabby creature, and very little use in this world to his fellows, unless he welcomes with avidity every opportunity of experimenting upon, to him freshground, and endeavouring, however puny his efforts may be, to acquire fresh knowledge and shed some ray of information therefrom upon his fellow-workers. I remember at one exhibition exhibiting a series of about two dozen slides, all by myself, which embraced dry plate with the bath, collodio-bromide, collodio-albumen, wet plate, carbon, gelatino-chloride, gelatino-bromide and gelatino-albumen, both contact printed and by reduction ; the dry plate pictures and those by the wet plate, to my mind's eye carried off the palm.

I deal with my subject as colloquially as possible, avoiding cumbrous technicalities, (which are perplexing to young amateurs), and shall try to make my paper as readable and enjoyable as possible being careful to condense as much as is advisable, consistent with a proper and full description of the mode of working-

I.—Dry plate process with the bath.

(*a*) The first operation is the mixing of the silver bath, and the greatest care must be used in every detail connected therewith. Take 12 ozs. of distilled or boiled water in a wide white crystal bottle, add 384 grains of pure recrystallised nitrate of silver, and shake well until dissolved. The water—though quite pure and clear before the silver salt was added—now becomes milky, but this appearance will vanish when the bottle is placed in the sun and allowed to remain for a few hours, a dark precipitate being deposited at the bottom of the bottle. When it is quite clear the solution can be filtered into the bath-holder, which must, for our present purpose, be a stout vertical—not horizontal—porcelain or glass dish. If the latter, there must be a wooden case provided for it, as without it, should the dark-room door chance to be opened, the plate in the bath would be fogged and spoilt. The filteration safely accomplished, the solution being tested with litmus paper is found to be decidedly alkaline in its nature; but to yield a picture brilliant and free from fog, it must be acidified. This is accomplished by adding 12 drops of strong nitric acid, which is stirred well into the bath by agitating it with the dipper. The solution, when tested with the arjentometer, will register 32 grs. to the oz.* We are now ready for the sensitising operation. Take a glass plate of the size required, which has previously been carefully cleaned with a moist rag dipped in tripoli powder, (I am assuming now that we are using new glass; if the glass is old it will require cleaning with acid according to the instructions laid down by any book on photography), and polished with a chamois leather, then coat it with collodions. Hold the plate by the left near corner, in the left hand, and the bottle of collodion in the right hand, be very firm and and steady, and in no wise fluttered, or in a hurry. Pour the collodion into the centre of the plate, (practice will teach you the exact quantity to use), run it round the edges and finally off into the bottle again at the right hand corner, raising the plate to a vertical position, and gently rocking it until the collodion ceases to drop and becomes tacky at the top, this you ascertain by lightly pressing a finger on it in the top corner. Now cork and put away your collodion bottle, place the plate upon the dipper, and quickly and steadily without stoppage, immerse it in the bath solution, moving it about for a few seconds and then allowing it to rest quietly for say 8 or 10 minutes, when it will have acquired a semi-opaque, and smooth creamy yellow appearance. As you raise it from the bath with the right hand, catch it with the left finger and thumb and remove it from the dipper, placing it on a piece of clean blotting paper to draw off the surplus bath solution before transferring it to a dish close at hand containing clear water, in which it must be left for three minutes or upwards, the dish being moved gently the while. I sensitise sufficient plates to fill my dish, it does not matter how long the washing continues, provided it doesn't exceed say twenty minutes, and then I apply the preservative to the lot, one after another, thus finishing one operation before commencing a fresh one. The plate is now removed from the dish, and washed under the tap until all greasiness has disappeared. It must then be transferred to the preservative, which is contained in another porcelain dish close by. There are many different preservatives recommended, and coffee, albumen, tannin, honey, beer, and other substances have been used, each of which has its votaries, and each of which, no doubt, is good for the purpose required. I have done excellently with honey, my mode of working being as follows: Take of English hive honey 2 to 4 oz., add to it in small quantities 12 oz. of water, shaking the bottle well between each addition. The solution must stand about four hours, and then be decanted, just before use, into the dish before mentioned. Each plate must be carefully immersed in this solution and left there fully five minutes, so that the preservative can soak into the film, at the expiration of which time they may be removed, and allowed to dry spontaneously in a wooden rack, with blotting paper underneath to catch the drippings. I have dried them with heat, but find that the films are thereby rendered horny and repellant, not taking the developer as they ought to do, and very often when so dried, the film peals off the glass during development, or throws up bulbous excrescences, (particularly if the glass has not been well cleaned), which burst and of course destroy the film. It is scarcely necessary to say that all the foregoing operations must be conducted in the dark room, though there is no occasion for the dim ruby light used by most workers for the quick gelatine process. I use when working the wet process two thicknesses only of thin canary tissue paper over the glass window of my dark room, and I never have any fog. The washing after sensitising is necessary for the removal of the free silver nitrate, whlch, if allowed to remain in the film, would crystallise on drying and eat it away, rendering the plate of course worthless altogether.

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*The arjentometer is an instrument purchasable together with a glass jar for half-a-crown which when immersed in our solution registers upon its index the weight of salt to the oz. of water.

(*b*) *Exposure.*—It must be borne in mind that these plates are much slower than gelatine emulsion, and therefore must be given a longer time in exposure, though how much cannot be prescribed here, regard having to be paid to the light used and the thickness of the negative, but generally three to five minutes is ample for a tolerably dense subject. Too long exposures will not be as detrimental here as it would were gelatine emulsion being used. The preservative I recommend, appears to act as a restrainer also, and the picture comes up under development, although somewhat over exposed, very gradually and evenly.

(*c*) *Development.*—The development is very easy and may be accomplished by plain pyro used with a weak solution of silver, and either with or without citric acid.

LANTERN SLIDES.

Take the plate after exposure in the left hand, and with a small piece of wood tipped at the end with a tuft of cotton wool, which has been soaked in indiarubber solution (made by dissolving small shreds of indiarubber in ether or benzoline), go carefully round the edges of the film. This is used in place of a substratum, which some workers recommend, but which to my mind is a great deal of trouble, and not necessary in this process. It prevents the films slipping during development and keeps the developer from flowing over the edges of the plate, preventing a consequent waste of solution. Now moisten the film with water and flow over it pyro 2 grains, water 1 oz. This usually gives by the addition of one or two drops of a 20 grain solution of nitrate of silver, a nice purple-black tone. The picture soon appears and gains density very slowly and beautifully. It can be examined, of course, during development by transmitted light. When sufficiently out, it should be fixed in weak hypo, or cyanide of potassium, and may be dried, after the elimination of the soda, over a spirit lamp, at the fire, or spontaneously. I think that quick drying gives a brighter picture, than is yielded if the plate dries spontaneously. It can be toned in the usual way with gold tri-chloride 1 grain, water 1 oz., but a few small crystals of citric acid in the developer give a pleasing tone, and the gold solution may be dispensed with. Transparencies produced by this method require varnishing, and a very thin brilliant varnish suitable for the purpose, called, I think, crystal varnish, is made and sold by Mr. Chapman, of Albert Square, the constituents of which I am not acquainted with. Ordinary negative varnish may be used if previously it is carefully filtered through cotton wool; but the first mentioned is to be preferred· The picture is now mounted in the usual way and is ready for the lantern. By the directions I give very nice work may be done. I have described as accurately as possible, the exact details of my mode of working, by which I have produced the work which many of you have seen at our lantern exhibitions. The same have been much praised and admired by many, though I do not adhere closely, as will be seen from my paper, to the complex detail of our friends Eder, Abney, and others.

(To be continued)

The Manchester Amateur Photographic Society.

Ordinary Meeting held July 12th, 1887, at the Masonic Hall, Peter Street. The President, the Rev. H. J. Palmer, M.A., in the chair. Mr. J. W. Young, Davenport, near Stockport, was duly elected a member of the society. The leaders of the York, Chester and Alderley rambles gave in their reports. The librarian announced the receipt of the following donations:—*Photographic Printer's Assistant* and *Practical Portrait Photgraphy*, presented by Mr. Wm. Stanley, and *Newman's Harmonious Coloring*, presented by Mr. A. Hay. The contents of the question box led to considerable discussion; particulars of the questions asked will be found under its appropriate heading. Prints, &c. were exhibited by Messrs. Greenwood, Macnamara, Parrott, Smith, Stanley and Wade.

Ordinary Meeting, August 9th, 1887. Mr. Wm. Stanley, Vice-president, in the chair. Mr. Saml. Kay, Willow Bank, Flixton, and Mr. D. Hy. Blair, 76 Moss Lane West, were elected members of the society. Reports of the rambles led by Mr. Flower, to Healey Dell, and by Mr. Davenport, to Rostherne, were read to the meeting, full particulars of which will be found in our columns. For contents of question box see special page.

Mr. Smith introduced the discussion on films, with some very interesting remarks, giving his experience in working, and exhibiting negatives from the following, viz.: Morgan and Kidd's negative paper, Warnerk's double coated tissue, Eastman's Vaseline films, Eastman's stripping films, and Pumphrey's flexible glass films.

Several questions were asked, and the discussion continued by the chairman and Messrs. Smith, Parrott, Furnivel and others.

A cordial vote of thanks was accorded Mr. Smith on the motion of Mr. Dawson seconded by Mr. Macnamara.

The secretary exhibited and explained the mechanism of a new detective camera by Messrs. Armstrong & Bro.

Prints were exhibited by Messrs. Jones, Rose, Wheeler, Parrott, Day and Smith.

Ordinary Meeting at the Masonic Hall, Cooper Street, Tuesday, 13th September, 1887. The President, the Rev. H. J. Palmer, M.A., in the chair. Mr. T. S. Lyon was elected a member of the society.

The Hon. Secretary read a letter from Mr. R. B. Wilson, who was detained in Brighton, appologizing for his inability to be present to read his paper on "The preparation of lantern slides." The paper will be found in this issue of the *Record*.

Reports of the rambles to Middlewood, Haddon Hall and Biddulph Range, were given by their respective leaders.

In answer to a query in the question box, Mr. J. Jones said he had used the society's lantern for enlargements to 12 by 10 on bromide paper, and had found it to work very satisfactorily. The lens gives very good definition, he used the *f*/16 stop, and gave an exposure of 15 minutes with a dense negative, with good results. The President thought the exposure rather long.

Mr. J. E. Thornton exhibited samples of his "special lenses," which have the following advantages, and were much admired, viz : lens pushes back into camera for convenience in folding. stops cannot fall out, nor can light enter at the diaphragm slit, There is bayonet catch to flange, and also to front and back combinations. Three sizes only are made at present to cover $\frac{1}{2}$, $\frac{1}{1}$, and $\frac{10}{8}$

Mr. E. H. Edwards exhibited and worked an American Air Brush. The instrument consists of an air-pump worked by the foot, producing a contiuous stream of air charged with coloring matter, which is deposited in a fine or coarse spray at the will of the operator, from a small nipple held in his hand.

Mr. Edwards proceeded to show its capabilities and in his hands it produced some most exquisite and artistic results. Rough outlines of portraits, &c., in pencil, were quickly worked up by delicate shading, and apparently to any degree of depth, in monochrome, in a way that may described as little short of wonderful. The exhibit was exceedingly interesting, and the vote of thanks which was accorded to Mr. Edwards, received a hearty support.

Mr. Parrott explained that the brush might be applied to bromide enlargements, to strengthen the shadows, &c., especially where the enlargement had to be made from a weak negative.

Mr. Greenwood displayed prints taken with a detective camera similar to the one shown by Messrs. Armstrong & Bro. at the last meeting.

Some excellent enlargements were exhibited by Mr. Carter. They were made with an ordinary camera, using a rapid rectilinear lens, placing the negative against a window, and using a plain white paper reflector outside. The exposure with *f*/32 stop was 2½ minutes in daylight. Morgan & Kidd's paper and iron developer used.

The President remarked that he had been using an apparatus of Solomon's with a French lens, for enlargements, and found it very suitable.

A considerable number of prints, &c., were laid on the tables by members, and an interesting conversazione followed.

Rambles.

WORSLEY.

Worsley is a favourite rendezvous for the amateur photographers of this district. Being within a few minutes ride by rail from Manchester, it is easily reached, but in addition to this advantage, it contains numerous old-fashioned buildings and objects of beauty. On entering the village one is forcibly struck by its romantic appearance, and in the neighbourhood there is no dearth of antique structures and pleasant nooks and corners to which that indefinable term, the picturesque, may be justly applied. Worsley is chiefly celebrated as the place where originated the Duke of Bridgewater's extensive inland navigation; the subterraneous canals and tunnels which it contains, extending in one instance upwards of six miles underground, lend an additional interest to the place.

Our ramble, the first of the season, was under the leadership of Mr. G. Wheeler. Thirty-five cameras were present, the manipulators of which (including two lady members), exposed 194 plates upon the various subjects and places of interest in the locality.

Drywood Hall, the residence of F. W. Peel, Esq., close by the station, was the first place visited. Here cameras and accessories were "unshipped" and views of the building and grounds taken (by the kind permission of Mr. Peel). The Hall is a fine old "magpie" structure with overhanging porch and quaint gables and eaves. Though not so large as some of the old quadrangular black and white buildings around Manchester, its freely indented front and roofs, and elevated position help to make it a very pleasing picture.

The ramble was continued to the private walks and woods behind the dam, on the Ellesmere estate, for which permission had been previously obtained. Many choice bits were photographed here. The wooden bridge over the stream, with the old woodman resting on it, received the attention of several cameras. Others visited the Aviary. Leaving the woods by the back of the school-house, the members went to the village where views were taken of the Court-house, and the old Boat-house on the canal bank, where the packet, in days of yore, started daily with passengers to Manchester. Passing along the footpath, behind the Vicarage, the party proceeded to Roe Green, where tea was provided. After tea, Wardley Hall was visited, and work recommenced in earnest.

Wardley Hall was erected over 250 years ago, and is mentioned in Roby's "Traditions of Lancashire" as having an unenviable notoriety for being haunted. The front and sides are in the black and white timbered style, whilst the back part is covered with ivy, and being almost surrounded by an ancient moat, it makes a charming scene. Permission had been obtained to go inside the premises, and the members availed themselves of the privilege by entering the court-yard and staircase to view the celebrated "Scull in the wall." Photos of the entire party were taken, in front of the arched entrance, by Mr. J. Davenport, and Mr. Whitham, junr.

GAWSWORTH.

THE Excursion of the Amateur Photographic Society, under the leadership of Mr. H. Champ, was to Gawsworth, near Macclesfield. This village, and its picturesque attractions, has often been described in the columns of the Press. Weather was unpromising, and proved very wet. Notwithstanding this, some 30 or 40 plates were exposed, some under considerable difficulty, for, when is added to the attention demanded by focussing, light, screen, shutters, stops, exposure, &c., &c., the skill to hold up an umbrella in wind and rain, to protect the polished mahogany and bright brass fittings, &c., so much the care and delight of amateurs, it is pretty certain, that if pictures are secured, credit is due to the zeal with which this enjoyable and instructive pursuit is taken up.

Gawsworth so abounds in picturesque combination, old hall, rectory, church, water (reflecting the church and carrying on its bosom patches of lilies), abundance of foliage, cottages, &c., &c., that a Saturday afternoon is all too short. The first exposure was upon an old cross by the road-side, before reaching Gawsworth. This was taken in the rain. The members were fortunate in being kindly permitted to enter the grounds and take several views of the hall. The old three-storied window at the back being pointed out as unique in the black and white style of architecture. A view of the church was next secured, the members finishing up their efforts amid a downpour of rain. The late enthusiastic Secretary being fairly pelted away with it, in taking his last "shot" as he calls it. We suggest that he should discard the term as undignified and inappropriate. The Secretary then, without ceremony, took the lead through the fields to North Rode, for the return journey, and soon paid the penalty of his temerity, by the rapid development of his nether habiliments. These intensified as he proceeded through the long grass and the corn-fields, until to his thighs he was saturated with the cooling developer which had descended so copiously. One member, following this rash lead, soon came to grass, camera and all, others fared variously, but saturatedly. Still the beauty of the surrounding country, in all the fulness of summer, was quite compensation for any drawback from inclement weather. The station was reached a quarter of an hour after time, but as the train had not arrived, members rejoiced, after their bathing walk, at the want of punctuality in the railway arrangement.

HEALEY DELL.

On Saturday, 23rd July, 1887, a party of this Society, numbering seventeen members and friends, under the leadership of Mr. S. F. Flower, left the Victoria Station by the two o'clock train for Healey Dell. Alighting at Shawclough Station, the party proceeded by the "Grist Yate" to Healey Dene, or Dell, a warm sequestered dingle which conducts the Spodden through a scene of wild woodland, and picturesque beauty. A clear rock spring in the Dell is still called the Spaw, hence, some have imagined that this Dene and its Spaw may have given to the river running through it the name of Spodden. This holy well was, in more superstitious ages, the supposed haunt of elves, fairies, and such other like beings.

Before reaching the ancient corn mill, one of the necessary appendages to hospitable mansions and plentiful boards of our forefathers, cameras were unpacked and work was begun in earnest. Passing through the yard of the old corn mill, which spans the river, and which in 1636 was converted into a fulling mill, but at present going to decay, the party proceeded up the valley, past the Fairies' Chapel, to that part of the river known by its Saxon appellation "the Thrutch," or "Thrust," signifying a narrow, but deep and rugged channel in the rocks. Through this cleft the Spodden bursts with great force, forming several picturesque falls, which, though of mean height, yet combined with the surrounding scenery, few behold without an expression of both wonder and delight.

The party returned by the road to Healey Hall, to which the members had received a cordial invitation by the present owner, T. S. Littlewood, Esq.

The ancient mansion of the De Heleys was a cumbrous building of timber, but the spirit of improvement having gone forth, an ordinary hall-house of stone was erected about the year 1620 by Oliver Chadwick, and in 1773 the existing edifice was built on the ancient site by John Chadwick. From the mansion, built on an elevated slope above the Dell, opens an extensive prospect. Lyme Park in Cheshire, Cloud end in Staffordshire with the Derbyshire hills may be seen, and upon the horizon rises up the barn-like ridge of Helsby Tor; while towards the west may be seen the Welsh mountains. Few situations, without the toil of a laborious ascent, show so commanding a prospect.

Several views were here taken of the Hall and some groups of the family; and before leaving, the party partook of the hospitality of the owner of this ancient mansion.

Fourteen cameras were at work, and upwards of sixty plates were exposed.

Ample justice was done to a substantial tea at the Healey Hotel, the party returning by the 7-0 p.m. train to Manchester.

ROSTHERNE.

On Saturday, August 6th, led by Mr. J. Davenport, twenty-two members and friends joined in the ramble to Rostherne, one of those quiet out-of-the-way nooks in which England may be said to abound ; where the full luxury of repose may be felt, and a host of pleasing and romantic associations enjoyed, without undue seclusion from the outer world. Most picturesquely situated, it possesses two features of no common interest to the beholder. The church of unknown age, and the magnificent mere or lake, "Roods Tarn," or the "Lake of the Holy Cross," deriving its name from the venerable edifice with which it is so closely allied in legendary detail. Though not recorded in the "Doomsday Book," the church was probably built soon after the Conquest, and the tower appears to have been added or rebuilt and furnished with bells, in the reign of King Stephen.

The mere is the largest and deepest in the county ; it is currently believed by the oldest inhabitants that it has no bottom, and an old superstition prevails that it has under ground communication with the Mersey or the sea.

Leaving Manchester at 1-35 p.m. the party soon arrived at Peel Causeway station, and drove thence to Rostherne via Ashley, getting a glimpse of the old mill, (where our last plates were to be exposed), and Ashley Hall on the way. Arriving at Rostherne, much to our regret, we found the church in the hands of restorers and nearly roofless. Cameras were soon unpacked and the first "attack" made on the "Lych Gate," which makes a good picture; the prettiest, just before the overhanging trees get too dense in leaf, say in May or later autumn, and the best time from 3 to 5 in the afternoon.

Permission having been obtained, we went down to the edge of the mere, where one of the most picturesque little bits is to be found, well worth, as the "veteran" remarked, a large sized plate. The picture is made up of reeds, old stumps, and water in the foreground, boat and boat-house in the middle distance, and a very finely wooded background. It makes a picture almost at any time, but it is best lighted early in the morning.

We were now joined by our worthy editor, who, with his amiable wife, had ridden over from Manchester on his tricycle.

Several pretty bits, quaint old cottages, &c., were found in the village, after which an adjournment was made for tea.

After several plates had been exposed on the church, the return journey was commenced, passing through the cornfields, ripe with golden grain, and wending our way along the crooked lanes, we soon left Rostherne in the rear, and found ourselves on the banks of the river Birken. Here a very good picture presented itself—old bridge, overhanging trees, winding river, and cattle grazing. Much to our regret, the latter had to be dispensed with, there not being sufficient light to use a shutter with any hope of success. Fifteen or twenty plates were here exposed and the journey resumed. On the way several pretty bits had to be passed by as time was getting on. One of which, a pit bank with reflections of trees, &c., in the water, two of our number could not resist, as we missed them some time after, and they were found just preparing to leave the spot. We soon reached Ashley Old Mill, where there is no difficulty in finding pictures to fill half-a-dozen plates. Ashley Mill, as it was twenty or thirty years ago, was very different from what it is to-day. The roaring weir and splashing wheels lent a charm to the old place never to be forgotten; then, pictures full of life and action were to be obtained; now, all is in ruins; still good pictures may be obtained. One of the most pleasing is the end of the old mill with the broken down wheel and wheel-race. The best time for which is very early in the morning or late in the afternoon. Another is obtained from the woods above what was the mill dam. This makes far the best picture, but a morning light is wanted to get it to the best advantage. The ruins of the weir make a third, and a fourth may be obtained from the Bowdon side of the river near the point the wheel-race joined the river. Other little bits are easily found on the spot. In the lane leading to the mill two or three more bits may be found. One is a pond by the road-side with rushes, &c., in the foreground, the road winding by its side, with a background of massive beech trees.

MIDDLEWOOD.

The twelfth ramble of the Society took place on the 20th August. Sixteen started from London Road by the 1-30 train to Middlewood, where we were met by another member, making seventeen in all. Five minutes' walk brought us to our first picture, where two or three trees had fallen across the stream, or I might say river bed, for owing to the dry weather, there was very little water in the stream. From this point we got divided, some fancying bits on different parts of the stream, or wood, which extends for fully a mile filled with pictures. About half-way we reach a white-washed cottage, and by its side, a bridge; also a spring well which proved the centre of attraction, especially when a rustic came to the well with a couple of cans for water. Others passed lower down the stream and got pictures of various characters according to fancy.

Half-past five being the time fixed for tea at the cottage, twelve of the party found their way back, and sat down to a nice comfortable tea which all seemed to enjoy. Sixty plates were exposed, the only complaint being the dulness of the light during a great portion of the afternoon, necessitating long exposures.

Our Wide Angle Lens.

Artificial Light.—Professor Vogel announces a great discovery in instantaneous methods, by which it is possible to take negatives in absolute darkness. A mixture is prepared of pulverised magnesium, chloride of potash, and sulphide of antimony, and the ignition of this causes an explosion affording an illumination resembling lightning, and of such an intensity that a photograph can be taken within one-fortieth of a second.

Actinometer.—We have tried the Bijou Actinometer and exposure table patented by Mr. I. Watts, of Altrincham, and find it a really useful and reliable little light test. Its price 1/- is a recomendation. Full directions for use are issued with each box.

Detective Camera.—The new secret detective camera, sold by Messrs. Armstrong & Bro., Deansgate, Manchester, is circular in form and constructed of thin nickel and metal, with a sling to hang from the neck. The instrument itself is placed underneath the vest, the small lens, a rapid rectilinear, protruding through one of the button-holes. Exposure is made by simply pulling gently a small cord. It is instantaneous; each plate takes six pictures which can be taken in six seconds, and an indicator registers the exposures. The best distance from which to take portraits is about six paces; views according to circumstances.

Tylar's Specialities.—At the last meeting of the Manchester Amateur Photographic Society, Mr. Tylar sent for exhibition a patent metal dark slide, a new washing, drying and draining rack, and one of his metal printing frames. While possessing all the advantages of the ordinary double back, the metal slide is more portable, easily fitted, and cost only one third the price. The drying racks are made either folding or rigid, and being covered with india-rubber, the plates cannot be scratched, or come into contract with the metal. Each rack will hold twelve plates, and they are admirably made.

The new printing frame is what is known as Durnsford's patent, only made in metal. It is exceedingly light and packs into a very small compass; and will be found most desirable for use whilst travelling.

Hypo-Eliminator.—Mr. W. H. Herman writing to the *Photographic Times*, says:—"It seems highly probable that the silver print of the future will have no hypo in it. Having carefully and quite thoroughly tried the virtues of Flandreau's Hypo-Elliminator, I am satisfied that it is capable of completely destroying the last trace of hypo in prints or negatives without injuring them in the least, or without leaving in them any substance, as the result of its chemical action that can act injuriously upon them sooner or later."

Question Box.

(Queries which may have been placed in the Question Box at the monthly meetings, or sent direct to the Editor, will be placed in this column. When suitable answers have been already given they will be reported for the benefit of others. The Editor will endeavour, as far as possible, to supply answers to the Queries which may not have been replied to, including those sent direct to him).

Agents.—Why are Developing Agents called "Reducing Agents"? What do they reduce? *Ans.* The silver is reduced to a metallic state.

Orthochromatic Plates.—Do they possess material advantages over ordinary plates? *Ans.* Only where true color values are important, as in copying paintings, &c.

Fogged Plates.—Can unexposed plates, which are slightly fogged, be rendered fit for exposure? *Ans.* No.

Zinc Trays.—What action, if any, has pyro-developer upon plain zinc trays.? Is developement in such trays injurious in any way to the plates? *Ans.* A powerful chemical action is set up, sufficient to eat away the tray in a very short time.

Optimus Lens.—Shall be glad of information as to Perkin's Optimus lens. *Ans.* It is highly spoken of by those who possess the lens.

Tissues.—Can any member give his experience in working the following films: Woodbury tissues, Froudman films, manufactured by the Vergara Tissue Co., Eastman tissues? Which is the most perfect film in the market? Are there any as good as glass for landscape work.? The Editor will feel obliged if readers will give their individual experiences on these important subjects.

Sale and Exchange.

(Our Sale and Exchange columns are open to subscribers free; to non-subscribers a charge of 4d. will be made up to 12 words, and ½d. per word extra.

Half-plate bellows camera, Chapman model, by Lane, London, with six double backs, £7. S. F. Flower, 133 Stockton Street, Moss Side.

Tripod.—One of Ashworth's patent, suit either ¼ or ½ plates; in good condition, not having been used much. Lowest price 10/6, cost 17/6. C. Dawson, 66 Peter Street, Manchester.

Half-plate.—Lancaster tripod, good condition. What offers? G. C., 21 Lyme Street, C-on-M.

Wanted.—Quarter plate camera, extension bellows, all recent improvements. G. C., 21 Lyme Street, C-on-M.

Wanted.—Dalmeyer's wide-angled retilinear lens, 1aa. Editor, 21 Howard Street, Eccles New Road, Salford.

Notice to Correspondents.

All communications should be addressed to the Editor, Mr. Wm. Stanley, 21 Howard Street, Eccles New Road, Salford.

THE

PHOTOGRAPHIC RECORD

THE ORGAN OF THE

MANCHESTER AMATEUR PHOTOGRAPHIC SOCIETY.

No. 2 JANUARY. 1888.

CONTENTS

Page
General Notes 29
A Few Words to Amateurs on Modern Lenses used for Photography ... 30
Instanteous Photography at Night 35
Landscape Photography 37
How to Use the Library ... 39
Lantern Slides 41
The Reduction of Drawings to Scale 45
Page
Manchester Amateur Photo. Socy. Monthly Meetings 46
Rambles :—Biddulph Grange ... 49
Hawkstone ... 51
Question Box 51
Sale and Exchange... 52
Our Wide Angle Lens 52

General Notes.

THE subscribers to the *Record* will be glad to learn that it has been found necessary to reprint a further issue of Part I. The first edition having been almost immediately sold out.

Mr. Wheeler's paper on Retouching Landscape Negatives, which appeared in our first number, has been reproduced in the *Camera*. While feeling gratified at this appreciation of our Magazine, we cannot but think it would only have been courteous to have acknowledged its scource.

The Editor of the "Photographers' Indispensable Handbook," in presenting a copy of his work to our library, pays us the compliment of saying, "that the *Record* is sent out in capital style, and is exceedingly interesting from a photographic point of view."

The Oldham Photographic Society have forwarded us their twentieth annual report. The Society is evidently in a flourishing condition and doing good useful work. It numbers 49 members and shows a balance in hand of £4 19s. 3d. after presenting each member with a presentation print. The Council have provided a book-case for the library, a cupboard for apparatus, and also purchased twenty volumes on Photography for the use of its members.

The Hyde Photographic Society will hold their Second Grand Exhibition of Photographs, on Jan. 5, 6, 7, & 8 inst. No charge will be made for wall space, and all exhibits to be sent to Photographic Society, Mechanics' Institution, Hyde, care of Mr. John Chorton.

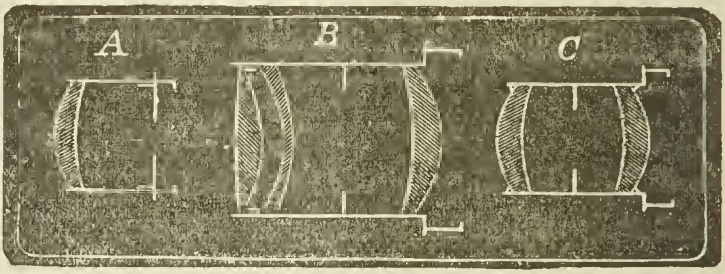
An International Photographic Exhibition will be opened on Monday, March 5th, in the Walker Art Gallery, Liverpool. Representative judges will award gold, silver, and bronze medals. Further details may be had from Mr. Thos. S. Mayne, Hon. Sec., Fenwick Court, Liverpool.

We wish to remind our readers of the Messrs. Saml. Fry & Sons' Lantern-slide Competition. Entries for which must be made before 31st January, 1888.

A few words to Amateurs on Modern Lenses used for Photography.

By J. T. Chapman.

Read at the ordinary Meeting December 13th, 1887.



IN the sketches here shown we have fair samples, as regards shape, of all the modern lenses used by the photographer. The one lettered A is known as the single landscape lens, and is the kind supplied nowadays with most cheap sets of apparatus at prices from a guinea upwards. We mean by sets, the camera, double slide, tripod stand, and lens with various other items all included in the price named; the lens itself not being more than a fourth of the amount. It is commonly called a single achromatic lens, and although to the novice in optics it appears as one piece of glass having one side convex, and the other concave, or perhaps flat, you will perceive that it really is composed of two pieces of this material, and not only so, but each piece is of a different kind to the other. In reality it is formed of two simple lenses, a double convex and a plano-concave, or may be a concavo-convex, the convexity of the former and concavity of the latter being of such curves and fit each other with such nicety that when put together they appear as one. To fix them permanently they are cemented by means of Canada balsam.

Lens grinding and mounting is a very interesting process to anyone having a taste for fine mechanical work, and it has been a wonder to the writer that no English maker of lenses showed the operation at our unrivalled Jubilee Exhibition.

The single achromatic was the first series of any importance used in photography, and although faulty in some respects it still holds its own, and is considered by some workers to be unsurpassed by any lens for certain work.

In the early days of photography when sensitive plates required exposures that would astonish some of the present day amateurs, the simple achromatic lens was used for all kinds of work, but as the demand for portraits increased, opticians were urged to make a lens that would enable the professional photographer to shorten the exposure in the camera: this was effected by the introduction of what is known as the portrait lens B, which, it will be noticed, is of quite a different construction to the single achromatic lens, being larger and having more glass as well as brass about it.

It is composed of a single achromatic lens at the front part, whilst the back is a peculiar combination of two simple lenses divided from each other by means of a metal ring. As the portrait lens is not much used now by the amateur, little may be said concerning it, so we will pass on to the lens which is now more extensively used than any other form of lens, this is that known as the rapid rectilinear, or rapid symmetrical C. This lens, now so well known, was first introduced by Grubb, of Dublin, and Ross, of London, both of whom it is needless to say were opticians of great note, and whose firms still exist, each unrivalled in their special branch of optical work.

Since its first introduction this rapid lens has been manufactured more or less successfully by many opticians, English and foreign, and within the last ten years especially has this been the case, and that there may be a difference somewhere, new makers of lenses and dealers in photographic apparatus have given this kind of lens a great many names.

Originally sent out by the two most noted English makers as the rapid doublet and the rapid rectilinear it is now known as the symmetrical, (on account of its front and back lenses being alike), rectigraph, orthopanactinic, euryscopic, hemispheric, straight line, true view, and many others, but of all, that by Dallmeyer, viz.: the rapid rectilinear, *i.e.*, to give right or straight lines, is to our mind the most expressive. One advantage this rapid form of lens has over the ordinary single landscape lens is, that when used upon rectilinear subjects it produces images without distortion, providing it be kept horizontal, or at perfect right angles to the subject; whereas the single lens used for similar work gives an image, the outside edges of which are out of shape: for general landscape purposes this distortion with the single lens is of no importance.

The rapid rectilinear is now much used for portraits and groups out of doors, and has almost done away with the use of the portrait lens that was required for such work, at a time when the dry plates used were not so rapid as those of to day.

The rapid rectilinear through being quick acting, and also non-distorting if used rightly, make it the most popular of all lenses used by the amateur, as it enables him to secure pictures of moving objects, as steamers, animals, moving figures in cricket, tennis, and other games, and this is where this rapid lens can be used with large aperture, and will answer perhaps better than any other lens.

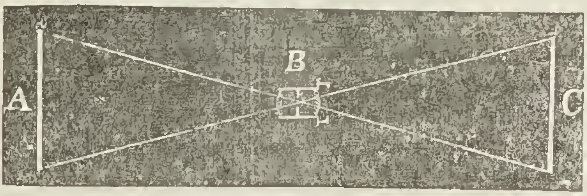
When used in its rapid form it has however what is commonly termed, very little depth of focus. This depth of focus is generally described as the property a lens has of giving sharp or distinct images of objects placed at different distances, the lens having this property in the greatest degree is the single landscape lens we have described.

To give depth of focus to the rapid rectilinear, stops or diaphragms must be used; the smaller the stop the greater the depth of focus obtained ; small stops however mean longer exposure and often times flatness of image, or want of brilliancy in the resulting pictures, so that practically for general landscape work, where foreground and background have to be pretty well defined, the diaphragm used must be sufficiently small to give the requisite definition: it then becomes a question whether a single landscape lens, in place of the rapid compound lens, would not be better in such cases. As the single lens is remarkable for giving brilliant images, we are inclined to think that it is much superior for general landscape photography than any compound form of lens.

The ordinary single landscape, and the rapid rectilinear, are both narrow angle lenses, that is to say, they do not take in much subject on the plate compared with other lenses of similar form, but wider angle; and as it is requisite sometimes to secure pictures of objects which are of unusual height or breadth, and placed in very confined spaces, thereby preventing the operator from selecting his own standpoint, lenses are made of much shorter focus than those of ordinary use, and yet that will cover plates as large as the longer focus ones. Such lenses are principally known as wide angle landscape, wide angle rectilinears, and portable symmetricals. The two latter, when used with small diaphragms, will cover plates whose length is almost twice that of the focus of the lens, and as they are constructed to give pictures without distortion, are of very great use for taking architectural subjects, fixed in very awkward places for the photographer. The form of both wide angle rectilinears and portable symmetricals may be roughly described as being the same as the rapid types, but of smaller dimensions, and as a rule have revolving diaphragms instead of the loose kind.

We have now described all the kinds of lenses used by the amateur, and hinted why each has its particular recommendation, and in doing so have made use of terms that are sometimes very imperfectly understood by the amateur photographer, even after some practice in the fascinating art. First there is the focus, what does this mean? We will try to explain it. If we take a camera to which is fixed a single landscape lens and point it to an object say twenty yards away, adjust the camera so that a clear image of the object is given on the ground glass, then measure the extreme length of camera and lens; now turn the apparatus towards another object not more than ten yards away, we shall find upon focussing and measuring again, that the length is more than our first measurement; and if we now turn the camera towards an object as far distant as we possibly can and again get an image, on measuring this time the length will be found shorter than any we have yet tried. Here then are three different focal lengths with the same lens, and the question the amateur often asks is, which is right? The true focal length of a lens is that given when it is used upon the most distant object possible, or in other words the nearest approach to parallel rays of light from the object to the lens; so that if we wish to find the focal length of a single landscape lens, we turn it to the most distant object we can, then measure the length from the focussing screen of the camera to the lens itself, this will be roughly speaking the focus of the lens. If the lens be of the compound form, *i.e.*, the rectilinear of either the ordinary, or the wide angle kind, then the focal length must be measured from the focussing screen to the opening in the lens mount where the stops or diaphragms are inserted, which is generally about midway between the lenses.

For those anxious to determine the focal length of their lenses in a more precise manner, the following is recommended; it is however necessary that the camera used is capable of extending quite twice the focal length of the lens being tested. Fix in a suitable position, and in a good light, any well defined object, say a white card having lines ruled across, the dimensions to be a little less than the focussing screen of camera, point the camera and lens towards this and extend the camera so that the image produced shall measure the same size as the object pointed at, when this is obtained the lens will be exactly midway between the focussing screen and the object. If the distance from focussing screen to object be now measured, and this divided by four, the result will be the focal length of the lens used, no matter of what form or type. Say a lens has to be tested as above, and the measurement from object to focussing screen is found to be twenty-eight inches, the focal length of the lens used will be seven inches.



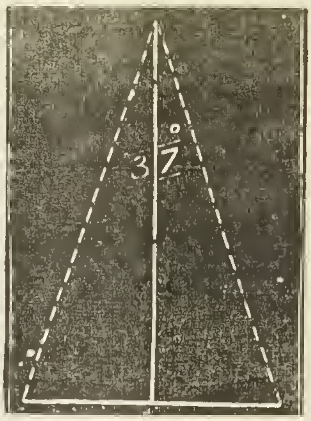
The size of image given on the ground glass of the camera depends upon two things, the focal length of the lens used, and the distance the lens is from the object being photographed.

In ordinary landscape work the operator selects his size of image by going nearer to, or farther from the object, and therefore can make one lens do for most purposes,

It happens sometimes, however, that the situation will not allow the operator so easily to obtain his picture, for if he requires a larger image, and there is some obstacle between him and the object, he will require a lens of longer focus; whilst on the other hand if the image be too large, and the operator is prevented from going farther from the object, then he will require a lens of shorter focal length; and if the subject be architecture the lens required must be of the rectilinear type: in fact it may be stated that it must always be of this form when required to take in a great deal of subject at a short distance, the single lens of the widest angle not being sufficient for such purposes.

The angle of view a lens gives is also dependent upon two things, viz., the focal length of the lens, and the size of plate used; and as this is a thing not generally understood, we may describe the principle in a few words. For example, let me take a lens of the widest angle type, namely, the 7 inch wide angle rectilinear of Dallmeyer, and use it on a plate 12in. by 10in. and for a distant object, here we have an angle of 80 degrees. Now if the same lens be used on a 5in. by 4in. plate, the angle will be only about 40 degrees, and yet we are using one of the widest angle lenses made.

A general landscape scene with the above lens on the small plate would be a pleasing picture, whilst in the former case it would be quite unartistic, owing to the exaggeration produced by the extreme wide angle of view, We have known cases where old hands at photography have got a little confused about wide angle lenses, having actually purchased a longer focus lens than their usual one, thinking that because it was a wide angle, it would be so if used on the same camera as their shorter focus lens, but such errors are not so frequent as formerly. Another thing often made



a blunder in, is the question as to the covering power of lenses. Enquirers see it stated in photographic price lists, that a certain lens is for making pictures on plates say 5in. by 4in., and cannot understand why the maker does not state for plates 5in. by 5in. as long as the lens is a round one, they have an idea that it ought to suit a plate of equal measurement on all sides.

Perhaps the following will explain. Every lens when used—or would do if the camera were large enough to show it—gives a circle of illumination, the brightest and most uniformly lighted part of which, is from the central portion to a certain distance towards the edge, after which the light gradually falls off, becoming so faint that no image is seen; now if this central space of uniform illumination be only about 6½ inches diameter, an oblong fignre of not more than 5in. by 4in, can be got from it, and if we try to obtain more than this, say 6in. by 5in. we shall find our four corners are out of the circle of illumination, or in such a position that no image is produced at these points. No doubt some one present has experienced having dark corners to their prints, when using negatives that have been taken when the camera front has been raised very much, thereby lifting the lens so high that no image has been produced at the corners of one end of the plate, which have during exposure been out of the circle of illumination.

There are many other items connected with lenses that one would like to write about; but as the paper has been extended to greater length than was at first intended, we will conclude by stating, that possessers of rapid symmetricals may turn them into long focus single lenses, by taking away either the front or back combination, and using a sufficiently small stop to give the requisite definition.

The lens thus formed will be about twice the focal length of the complete lens of which it forms part; and if the camera to which it is fixed be one of sufficient extension, such a lens willl be found extremely useful for long distant views, etc.

Instantaneous Photography at Night.

BY RANDOLPH ORME GILMORE.

IN accordance with the request of the Editor, I have much pleasure in forwarding a note upon this subject:—

The electric light, the limelight, and the magnesium ribbon light, (whether ignited in oxygen or otherwise), are all of practically little value for photographic lighting: the reason of course being that these lights are little more than mere *points of light*, and produce as results, hard negatives and shadows too sharply defined.

In order to obtain a soft negative with delicate gradations, we require a powerfully actinic and diffused *blaze*—a large *quantity* of light in addition to intensity.

Powdered magnesium satisfies some of these conditions but when used *alone*, it burns much too slowly for so-called instantaneous work.

This difficulty has been overcome by *Gädicke* who uses a powder composed, I believe, of magnesium chlorate of potash and sulphide of antimony.

Potass-chlorate is, however, liable to explode from percussion or friction, and is therefore too dangerous for ordinary use.

Moreover, as equally good results appear to be obtained by mixing one part of gunpowder with four parts of magnesium, there is apparently no advantage to be gained by the use of this dangerous and complicated compound.

As, however, the smell of gunpowder is as objectionable as the smoke; and as it has too great a tendency to blacken ceilings and injure apparatus, the substitution of gun-cotton has been recommended.

This seems to possess every advantage and answers perfectly.

From ten to fifteen grains of powdered magnesium spread over about seven or eight grains of gun-cotton, so arranged as to cover as large surface as possible, will furnish sufficient light for portraits, small groups, copying, and for bromide enlargements.

I have found the light perfect, using a small stop and ordinary Ilford plates. My only difficulty has occurred in portraiture.

The results as to definition, shading, &c., have been all I could wish; but inasmuch as the sitter could see me lighting the gun-cotton with a taper, the eyes were generally half-closed in expectation of the dazzling flash-light.

To overcome this I have found it necessary and much more convenient to ignite the gun-cotton by electricity, and when satisfied that my "*patient*" looks as I wish, I press the electrical push and the business is over before he has had time to *wink*.

By electricity I can of course, if I wish, ignite simultaneously in different parts of the room several charges of gun-cotton and magnesium.

The advantages of this are so obvious that I need not enlarge upon them.

My battery consists of five small chromic acid cells, which are best of the corrugated carbon type.

With this battery I not only explode the gun-cotton, but also work a small incandescent electric lamp, which I find is almost invaluable in focussing accurately.

Both batteries and lamps can be purchased from Mr. Millar, the electrician, Deansgate, at a reasonable figure.

A description of the electrical portion of my arrangement might be too long and too complicated for insertion in this Magazine.

I have therefore only to say, in conclusion, that I shall be glad to give any member of the Society additional particulars or information with reference thereto, upon his calling at any time, at my chambers, 78 Cross Street, Manchester.

Landscape Photography.

By J. W. WADE.

(continued)

If we introduce figures into our picture, we must first consider whether the figures are accessories to the landscape, or the latter subservient to the former. Should we require the landscape simply as a background, we must choose a suitable one, and keep it toned down, both by the avoidance of strong contrasts; and by throwing it out of focus. As an illustration of an ill chosen and ill rendered background, I may mention a picture I once saw, where a tree seemed growing out of a cow's back, the cow and the tree behind it being equally sharp. It is a truism to say that a landscape is nearly always improved by the addition of figures, but if not well chosen, or not placed in a suitable position, it may injure the pictorial effect. For instance, we should be surprised if in the gallery in Mosley Street we saw, say, a painting of a wild Highland landscape, with a gentleman introduced, wearing the inevitable "top shiner" and white waistcoat, but how often do we see similar figures in our photographs. The figures *must* be in keeping with the landscape. I might mention two or three subjects which are suitable for most landscapes and easily obtained; such as an artist with his easel, girls gathering wild flowers, a group of country lads, an old man or woman by a cottage door, and when photographing by a lake a boat makes a useful accessory.

Some good cloud negatives are essential to artistic productions, for, by the arrangement of clouds, we can obtain the balance of light and shade which otherwise would be impossible. It is very rare that we obtain clouds of a suitable quality in a fully exposed negative, therefore, we must resort to double printing, and in this our first care must be to select a cloud negative in keeping with the landscape, lighted from the same side, and not so sharply defined as the distance in the picture. Before cloud negatives were much used the practice of sunning the print was resorted to, and even now a picture may sometimes be improved by it. A mistake is often made. especially noticable in seascapes, in printing clouds near the horizon which have been taken at a higher altitude. This gives an unnatural appearance to the clouds, and teaches us that the camera should be almost level when taking a cloud negative, and that we should have an uninterrupted view of the horizon. Sometimes we have a picture of a lake with perfect reflections of terrestial objects, but the sky and the reflection of it print quite white. A good method of treating this kind of picture is to print in the necessary clouds, then, turning over the cloud negative, print on the water. The film being separated from the paper by the thickness of the glass gives just the right amount of wooliness required.

The painter represents the scene he wishes to portray, in colours as well as in light and shade. Here the photographer has to draw the line, and that happy time when we can step beyond that line, and depict our photographs in colours, has yet to come. Until then we must direct our attention to printing the photographs in a tone suitable to the subject. Should it not be so, we have no excuse, for the range we have at our disposal is so extensive, from the cold blue, mounting through the various shades, to the warm sepia or red. Snow scenes and statuary should be printed in a cold black tone ; moonlight scenes should, of course, have a bluish tone. Platinotype is well suited to seascapes and winter landscapes, and the warmer tones may be used with most summer or autumnal subjects, but must be varied to harmonize with the general scheme, or the principal object in the picture. Indeed, each picture must be carefully studied as to what tone will be the most suitable for it, and in these days when some amateurs tone 40 or 50 prints on their toning evening, many may say that such an idea is Utopian, but herein, I believe is our mistake, we take too many pictures. My ideal of taking photographs, say during the holidays away from home, may be briefly summed up something in this way. We will suppose that we are located in the midst of some beautiful scenery, I say advisedly, located, for I do not believe in that rushing about from place to place, which the modern tourist is rather apt to indulge in, but rather to get a good centre and work from it. It is desirable to have in your temporary abode, a small room with a lock on the door wherein you can keep your apparatus. The first day or two of the holidays might be given up to loitering about the neighbourhood, making outline sketches of any likely bits ; then on a suitable day go forth armed with a good sized camera, say 15 by 12, and one double dark slide. Spend the day with your family or friends in the woods or on the lake and expose your two plates. Having only two plates you will be sure to exercise care in the exposure and choice of subject. In the evening retire in solitude to your little den, and either change your plates, or, if not sure of the exposure, develope. In this way we should be certain of obtaining good results.

I have spoken once to-night of "artful dodging" in a photograph. This, though expressive, is scarcely applicable, but stands in the same relation as does glazing, scrumbling, &c., to painting ; and if the effect aimed at is obtained, it matters little as to the means used, indeed, it is these little things attended to that go a long way to make the difference between an artistic photograph and a non-artistic one. When one uses, with equal facillity, the pencil, brush, and camera, he looks upon the latter simply as a tool wherewith to produce his pictures, and the chemicals as the mixing of colours, &c., and does not rely upon expensive apparatus, but sees that his camera is light tight, his dark slides register, and that his lens is properly tested. It is scarcely within the scope of this paper to mention all the dodges which may be utilized in the production of a photograph, they are without number, from shading the lens during exposure, to working on the tissue-covered negative, indeed to trimming and mounting the prints. It may be questioned how far dodging is legitimate, but I look at it in this way, if we exhibit a photograph intended to represent any special place, then we should endeavour to give a truthful representation of the scene; but if we call our picture by any fancy name, such as "a country lane," or "by the lake side," then we may dodge to our heart's content, and print in rocks, trees or mountains, indeed, sometimes I use three or four negatives on one picture. This, of course, entails considerable trouble, but if we wish our productions to rise above mechanical photography, and rank with those of our brethren of the brush, we must ever keep in mind that, "if a thing is worth doing, it is worth doing well." In conclusion, I may say, that this paper has not been written with the intention of bringing out anything new, indeed, some will say they have heard these things over and over again; but it is intended to direct the attention of beginners to the art side of photography, which is rather apt to be lost sight of while he is puzzling through the multiplicity of processes now in vogue. Should it do this, even in the smallest degree, I shall be well satisfied with my efforts.

How to Use the Library.

By the Librarian.

WE are only repeating an accepted axiom when we say, it is not the number of books a man has read, or has in his possession, that makes him wiser than his fellows. In one of Professor Blackie's essays he compares the reading of books without the application of personal experience, to the falling of the rain upon the tiles—they receive the rain it is true, but it runs off and the ground beneath is untouched. The simile is homely, but true, for much of the present day style of reading is valueless.

In making use of our photographic library we require to keep two principles before us: one is to remember the information we have read, so that we may put finger and thumb on it when we are in the dark and wanting light, and the other is that embodied in the Professors advice before mentioned, the application of personal test. These principles may apply to reading in general, but they are invaluable in connection with our "black art." Photographic literature is almost bewildering in its abundance, and contains such a mass of formula, apparatus, wrinkles, and resuscitated startlers, much of which is untried, weak, or altogether useless; and considering that many of us are enthusiasts, reading with avidity every scrap of print relating to photography we can lay our hands on, we come to the conclusion that unless we can have "method in the madness" we are simply wasting time. The books are supposed to contain "light on the subject," and our aim should be to appropriate to ourselves some of the light. How are we to do it? A good memory is a splendid storehouse, but unfortunately many of us are but indifferently blessed in this respect. It may be our own fault we admit, but nevertheless the fact is there, it is bad. We have known a lame man with a natural weakness in his limbs, get over more ground by the aid of his artificial crutches, than his neighbour who has no physical disabilities. We want some artificial means by which, in spite of our poor remembering organ, we can compete successfully in the race with others who have retentive memories. To accomplish this we must systematize our reading by making notes, or in other words provide an artificial memory. This is not a difficult task and will repay the labour involved.

A good plan is to purchase, say half-a-dozen memo. books, the thicker the better, costing a few pence each. Outside, on a paper label, write the title for the matter each is to contain. We will suppose the first is marked "Development and Intensification." In this enter the various formula for ferrous-oxalate, pyro-ammonia, soda, &c., in the treatment of negatives, lantern-slides, enlargements, &c., with their author's names and the books from which they were obtained. We may not require them all in actual practice, but we are gathering information as to what others are doing, and we can refer to them should we want them. Besides, the act of writing improves the memory. Another book may be labelled "Landscape Notes," and this ought to be an important subject with amateur photographers. It might contain an epitome of such books as H. P. Robinson's "Pictorial Effect" with rough sketches illustrating the principles laid down; or the various points enumerated on the same subject in the excellent paper by Mr. Wade in the last issue of our *Record*. This method of summarizing is even better than having the original book in our possession for it "fixes" the subject thoroughly. Other books may be retained for such items as "Chemical Notes," "Apparatus," "Printing and toning," "Sundry formula," "Lenses," "Wrinkles," &c. The making of these notes or extracts may take an amount of time, but one book well read and digested is of more value than twenty volumes hurried through and forgotten, and if the notes are made promptly. in conjunction with the reading, the labour will repay with interest. As Captain Cuttle says, "When found, make a note of."

By some such system we may acquire a condensed library, always handy to refer to, containing the "cream" of all workers, past and present.

Lantern Slides.

BY R. B. WILSON.

(Continued)

II.—Emulsion Dry Plates.

THESE plates are very different to those, the subject of the of the first section of this paper. The process by which they are prepared, the chemical re-agents, method of development, and the exposure and general treatment being totally different.

The gelatino albumen and gelatino bromide plates are much more sensitive, and must be worked in a more inactinic light. I use three thicknesses of thin orange, and one of thin green tissue paper over a paraffin lamp, on the window of my dark room, and find it a very soft light to work by; the gelatino chloride plates are just about the same speed, as regards their sensitiveness as dry plates with the bath, and the same light may be used to work them by.

I have before said that I do not prefer one maker's plates from another, but I am astounded at the perfection which has been attained by all of them, and the care and pains which each has taken to push his own special manufacturer into the front rank. But I have a pet process, and I do not hesitate to say that I always work a gelatino chloride plate in preference to any other emulsion plate. I think that the great range of tone obtainable with them is a desideratum, and as a rule they are clearer and more brilliant than bromide plates, owing principally to the different nature of the developer, which, in that of the chloride plates is iron salts, and in that of other plates either pyro soda, or pyro ammonia; and we all know, particularly the ladies of our establishments, the staining properties of pyro. I do not say that stains, and bad stains too, do not occur with the Ferrous oxalate developer at times, but I do say that stains are not found when things are in their normal condition, it is owing either to careless operation in the mixing or manipulation, or under exposure and over long development, when anything serious is found in the way of stains. Having regard to this, therefore I would recommend slide makers to use chloride plates in preference to all others, though it must be remembered that I am speaking of emulsion plates, it must not be thought that I am turning aside from my old love and shelving the wet collodion process, which to my mind is at any and all times the finest and pre-eminent method by which to produce good work for the lantern.

Perhaps it would be well before going further to give a brief sketch of the process. It was first described by Dr. Eder, of Vienna, and as early as 1881 a series of very beautiful transparencies was made in London by its aid. The emulsion was at first so modified in its composition as to give different tones, and was developed by iron citrate only, and all conceivable shades were obtained thereby. Then Captain Abney published a citro-oxalate developer, which is used by many to this day, and which gives deep black tones only; it has since been found by experiments, notably by Mr. B. J. Edwards, that any range of tone can be got by varying the length of exposure and the amount of restrainer in the developer, that short exposure and strong development give black tones, and extended exposure and development well restrained give warm tones.

No rules can be given for the length of exposure, particularly if we work by daylight. I use always magnesium wire myself, it is more certain and just as quick, indeed I think it is quicker. The film on a chloride plate is very thin, and great care shonld be used to prevent a movement, or a rubbing of the two films, in which case that of the chloride plate would certainly become abraded, and the plate be spoilt altogether. The great danger is in taking the plate off the negative after exposure and before development. One fumbles about too much with ones finger and thumb, and the object of all our care is moved, ever so little it may be, but still it is moved, scratched, and spoilt. I adopt a very good plan to reduce this danger to a minimum. I use a very old printing frame with a back which is in one piece, having a small lump, or two small lumps of cobblerswax stuck upon it, I place the negative in the frame, the plate for exposure carefully in the exact place upon it, the back upon both, and fasten the spring. I make the exposure, and unfastening the spring raise the back, the exposed plate coming with it firmly stuck to the cobblerswax. It simply wants to be taken off the wax, which can be done without any danger to the film at any rate, and then transferred to the developer.

The development is very easy, the only difficulty being which modification of Ferrous oxalate or citro oxalate to adopt. I have tried them, all both singly and mixed in varied proportions, and both with restrainer and without it, and I find that one of the best formula I ever worked and one which gives a rich black tone is the following :—

1		2	
Sulphate of iron	1oz.	Oxalate of Potash	5 ozs,
Sulphuric acid	2 drops	Bromide ,,	10 grs.
Water - - -	5 ozs.	Water - - -	20 ozs.

The two solutions must be mixed very carefully, and exactly the quantity of water given here should be added and no more. To make the developer, add 2 drams of No. 1 to 8 drams of No. 2, which quantity will develop four plates satisfactorily and no more.

The bromide may be omitted or varied in its proportions. I often mix it without bromide altogether, having a bottle of that solution 20 or 40 grains to the ounce, ready mixed and close at hand. A few drops of this added to the developer, just before use, gives any tone that may be wanted, or a pinch of common salt may be substituted and is quite as good in its effect.

Another formula is one given by Mr. Edwards.

1		2	
Oxalate of potash	2 ozs.	Sulphate of iron	4 drs.
Chloride ,,	40 grs.	Citric Acid -	2 ,,
Bromide ,,	20 ,,	Alum - -	2 ,,
Water - -	16 ozs.	Water - -	16 ozs.

Eqnal parts of this are mixed and form a developer, but no better than the first one.

Another developer I find in my note book is recommended in the *British Journal*, but I do not remember by whom.

Carb. of potash(commercial)	1 oz.	Hydro-kinone -	20 grs.
Water - - - - -	4 ozs.	Methyl. spirit -	$1\frac{3}{4}$ ozs.
		Glycerine - - -	$\frac{1}{4}$ oz.

For use add 4 parts of the alkali to 1 of the hydro-kinone. I give this developer without comment, as though I have used it I do not notice any peculiar superiority about it.

The three developers published by Mr. Cowan on the instructions sent with their plates, I not only don't care for, but would not use. I consider them troublesome and uncertain. They are, to use a term of my own, clumsy solutions. I will undertake to say that better pictures can be done on Mr. Cowan's plates by both or either of the Ferrous oxalate solutions I recommend here, than by Mr. Cowan's own solution. I am very sorry to say that his plates are not so satisfactory this year. They were my sheet anchor for a very long time, and I have I think hundreds of real gems from my own and others' negatives of all shades of tone upon them, but out of four dozen exposed in the last fortnight, I have rejected fourteen plates owing to scratches and abrasions on the film, and to a very nasty discoloration all round the edges of the plate. I kept noticing that picture after picture on coming out of the developer, when examined by transmitted light before fixing, showed these abrasions ; I was careful, became more careful, but there they were on each picture, until at last it occurred to me to examine the plates before exposure, and just as I got them out of the box, when I found them bad as I say. I should recommend workers to carefully examine each plate as it is taken out of the box before doing anything with it, and if they are scratched as I say, take them back at once and insist on their being changed. If every one who uses them does this the fault will be speedily rectified by the makers, and the plates will be once more as reliable as of yore, and resume the place they used to hold.

To develop the picture, place in the dish and pour over the solution which will develop three or four plates consecutively. The first appearance of the image is slow, and of a pronounced red color, as can be plainly seen by transmitted light, the film being so transparent; the color changes very beautifully as the development goes on, and in from one to two, or at the outside three minutes, all detail will be out and the required density obtained. Longer development than three minutes with developer of normal strength will very likely produce stains, but as I said before, if properly exposed the picture should come up before then, though, assuming the plate to have been very much over exposed, with a view to slow and prolonged development with strong restrainer, for the purpose of obtaining a specially warm tone, I find the strong restrainer itself act as a preventative of stain, and have kept a developer so restrained working for upwards of quarter of a hour, the result of tone being a bright scarlet, and brilliancy everything that could be desired. I think it a good thing to hold the plate up to the light, without the developer for a few seconds, the density can be seen deepening, and greater brilliancy I think is obtained. The developer may be poured off when finished with and the plate rinsed under the tap before fixing. After fixing the picture shows up brilliant and clear, but should there be any dulness, which will no doubt be due to oxalate of lime, it can be removed by using

Citric acid -	½ oz.
Iron sulphate	1½ ,,
Water - - -	10 ozs.

which is best poured over the plate in a small quantity, and then off and on till the desired effect is produced.

I always have the solution ready for use, but I find it is seldom required. The pictures after fixing should be allowed to dry spontaneously, and are when dry ready of course to be mounted in the usual way.

I fear that I have spun out this paper to an inordinate length, and our Editor, (good Mr. Editor pray regard me as leniently as possible), may no doubt grumble, but I have not said by any means all that I could or should like to say. But there is always a difficulty in describing anything to know exactly what to say and what not to say. Some people will remark "what is the good of this mass of detail which we all or most of us at any rate are acquainted with?" on the other hand will say "Oh why does'nt he go more into the practical details?" and so on. However, I hope my efforts will be useful and instructive, and at some future date when I have both time and opportunity, I shall be glad to say something upon the wet and other processes, notably that of the collodio albumen method of producing slides, and the small but important detail of mounting, etc.

The Reduction of Drawings to Scale.

BY J. H. STEPHEN.

A communication at the ordinary Meeting held Nov. 10th, 1885.

MAPS and other drawings are often required to be reduced from the scale to which they have been made to a lesser size.

Such well known methods as the employment of the pentegraph, and the ruling of squares on the drawing are subject to errors of omission and of manipulation, and entail a long and tedious amount of labour, especially in a very crowded map.

Having employed photography successfully for this purpose, a few words of description may be useful to some members, and an idea of a more accurate method than the one in general use may be interesting perhaps to the remainder.

There is no originality of idea, as the methods have been long in use in the Ordnance Survey Department, and a more expensive apparatus will be found described in the "Account of the Methods and Processes adopted for the production of the maps of the Ordnance Survey, drawn up by the officers of the Royal Engineers employed under Lieut.-Gen. Sir H. James."

The drawing, if loose, is first fastened by drawing pins on a board. If mounted and stretched before the drawing is made, so much the better, but any subsequent damping in mounting after making will alter the scale. If the drawing is too large to be taken at once it may be divided into rectangles of a suitable size, ruled in pencil on the drawing, and the resultant map built up in a similar way.

The size of these rectangles will depend upon the size of the plate which can be taken, and the required amount of reduction—the larger the plate the better.

Possessing only a half-plate camera, a rectangle of 6in. by 4¼in. was ruled on the ground glass screen, and diagonals ruled across, in fine indian ink lines, and the diagonals measured to test the rectilinearity of the figure.

The reduction being required from a 44 feet to the inch map, to a map 3 chains or 198 feet to the inch, a rectangle in this proportion of 9 to 2, that is, 27in. by 19⅛in. was ruled on the 44 ft. map, and diagonals ruled and measured as before.

The object is to fix the board and camera in such a position that the rectangle on the plan, with the diagonals, when looked at through the camera will exactly correspond with and cover the rectangle and diagonals on the ground glass screen.

The apparatus should be as rigid as possible, and a solid body camera used.

A frame, the top of which is moveable with slow motion screws, nearer to or farther from the drawing in the line of sight, and transversely across the line of sight, and which has levelling screws, enabling it to be adjusted to the proper height and place of the picture, and the whole pivoted on a tripod. A strong pair of levelling legs was found admirably adapted for this purpose. After a little practice it is found not very difficult in a short time to arrange the various adjustments so that the rectilinear and the diagonal lines on the drawing cover the corresponding lines on the screen. Until this is done the adjustments are not perfect. When the negative is completed, a print may be taken, but not fixed or in any way damped. A piece of tracing with the large external rectangle containing the whole plan divided into the separate rectangles can be taken, and a tracing of the print on its proper square made, and the whole plan built up in this way.

On account of the slight refraction in the ground glass screen, and the consequent difficulty of deciding when the rectangles and diagonals are exactly coincident, a piece of tracing paper could be advantageously substituted.

The Manchester Amateur Photographic Society.

Ordinary Meeting of the Society held Oct. 11th, 1887, at 7-30 p.m., at the Masonic Hall, Cooper Street. The President in the chair, the following candidates were unanimously elected members:—Mr. D. C. Mc.Gregor, Fairfield; Mr. Charles Taylor, Regent Street, Eccles; Mr. William Howard, Alfred Street, Lower Broughton; Mr. J. T. Lees, Dukinfield. Reports of the rambles to Ingleton, Hardcastle Craggs and Dunham were given by Messrs. Furnival, Smith, and Davenport. The President exhibited a home-made camera adapter for photographing ceilings. Mr. Stanley showed prints upon Wolff's patent adhesive mounts; and also laid upon the table for inspection a copy of the recently published Photographic Handbook. Referring to the new magazine, published by the society, several of the members hoped that the council would see their way to a further increase in the number of its pages as its popularity is evidenced by the fact that the first issue of 500 was almost all sold within a fortnight of its publication.

During the evening a demonstration on developing and developers was given by Messrs. Palmer, Berry, Wheeler, Harrison, Smith, and Wilson, twelve half plates having been previously exposed on subjects at Worsley. As specimens of negative making the results were not quite satisfactory, but to the younger members of the society, the methods of working, and the capacities of the different developers, proved very interesting and instructive.

The paper of the evening was read by Mr. R. B. Wilson, who concluded his remarks on Lantern slides by the wet process, a full report of which will be found in the next issue of the *Photographic Record.* He said: Without going actually into raptures upon the wet process, I think it is undisputed that slides made by it cannot be excelled in delicacy and brilliancy by any known dry process.

Moreover, it is the only process save gelatino-bromide, by which transparencies by reduction in the camera can be procured. The cost too is a consideration; slides can be made by the wet process at a total cost of, at the outside, say 11d. to 1s. a dozen, including the price of glass, and this would be further reduced by utilzing the stock of old and spoilt 3¼ by 3¼ plates which accumulate in every one's studio. For these, and also for other reasons too numerous to mention, I think we may place the process first amongst all others. Mr. Wilson then proceeded to describe and discuss, for the benefit of amateur workers, the full details of the whole process from first to last, and also remarked upon the apparatus necessary.

A full report will appear in the next issue of the *Record*, completing Mr. Wilson's series of papers on Lantern slides.

In the discussion which arose, Messrs. Palmer, Steventon, Berry, and Ward took part, and a cordial vote of thanks was given to Mr. Wilson for his excellent and practical paper.

In the conversazione which followed, prints, enlargements, lantern slides, and stereoscopic views were exhibited by Messrs. Fawkner, Stanley, Champion, Wolff, Furnival, Davenport, Parrott, Steventon, Brooks, and Smith.

The ordinary meeting of the Manchester Amateur Photographic Society was held on Tuesday evening, Nov. 8, at the Masonic Hall, the President, the Rev. H. J. Palmer, in the chair. The following gentlemen were elected members of the society:—Mr. H. Barker, Old Trafford; Mr. A. H. Beckett, Chorlton-on-Medlock; Messrs. S. B. Boardley, Stretford Road; W. H. Collier, Miles Platting; P. Hudson, Eccles Old Road; J. T. Hughes, Altrincham; T. M'Cleary, Pendleton; A. Ogden, Moss Side; A. E. Parker, Moston; W. Pearson, Eccles; L. A. White, Moss Lane East; E. Whitelow, Timperley; and C. H. Wolff, Hale.

Mr. Wheeler announced presentations to the Library as follows:—By Mr. Seed, 1st vol. of The Camera; by Mr. Hughes, Hardwick's Photographic Chemistry, 6th edition; by J. G. Jones, Murray's Guides to Yorkshire, Lancashire, Shropshire, and Cheshire; Black's Guides to Scotland and Ireland; Jackson's Guide to the Isle of Man; a Photo., and how to take it, by Wood; also, Messrs. Wood, Newton, and Stewart's Catalogues; by Mr. Stanley, Photo-micrography, Bousfield, and the Photographers' Handbook; by Mr. Parrott, the binding of the yearly volume of the *Photographic News*.

Mr. Flower proposed and Mr. Smith seconded a hearty vote of thanks to the donors.

One of the most enjoyable and pleasing results of the contiuued advances in the Photographic Art is the facility with which its practitioners can now produce from negatives, the lantern slide, or positive picture on glass. It is not too much to say that no amateur has fully realized the beauty of his pictures, presuming that ordinary care in selecting position, focussing, and the rest, has been taken, until they are thrown upon the screen by the aid of the lantern. In the paper print there is frequently a considerable loss of detail; on the other hand, the detail in the glass picture, even when the picture 3¼in. is magnified to ten or twelve feet diameter, comes out with almost startling brilliancy. It is now they begin to realize what has been said about line of sight, middle distance, and depth in shadows, &c., and to feel that the art side of photography is not that unattainable something which it is impossible for amateurs to grasp. The council had arranged for an exhibition on this evening, and Mr. Willlam Stanley, one of the vice-presidents, brought down his oxy-hydrogen lantern and threw upon the screen two hundred and three of the members' own slides as follows:—Mr. Wade, eleven slides, Port Erin; Mr. Watson, fifteen views of the Irwell at Barton, and Isle of Man; Mr. Irwin, fourteen views of Ireland and Ingleton; Mr. Guilford, nine Scotch views; Mr. Parrott, eight various; Mr. Davenport, eleven views of Rostherne, Dunham, and Morecambe; Mr. J. G. Jones, twelve views of Tabley Hall and Barmouth; Mr. S. F. Flower, eighteen views of Ingleton, Durham, and Hardcastle Craggs; the Rev. H. J. Palmer, eighteen views of the Isle of Man and Welbeck Abbey; Mr. E. W. Davies, three views and Mr. Berry, five views of Bettws-y-Coed; Mr. T. M. Brook, seven views of Rostherne and Gawsworth; Mr. Lane, two animal studies; Mr. Wolff, twelve various, including two of the up and down Irish Mail when passing Colwyn Bay. These he calculated to have been taken in the one hundred and fortieth part of a second; Mr. Heywood, eighteen views of Rotterdam and Brussels. Mr. Heywood, as the pictures appeared upon the screen, gave some interesting explanatory remarks; Mr. Widdop, fifteen views of Naples and Rome; Mr. Crippin, five views in Yorkshire; Mr. W. Stanley, fifteen views of Middlewood and Rostherne; and Mr. Ritson, five views of Ingleton. Several of the members exhibited for the first time, and some of their pictures proved very creditable to them.

At the close of the meeting Mr. S. F. Flower, one of the vice-presidents, presented to the society the eighteen slides which he had shown, as the nucleus of a slide cabinet for use with the society's lantern.

Mr. Wade's account of his week's holiday at Port Erin will appear in the next issue of the *Record*.

Ordinary meeting held December 13, at the Masonic Hall, Cooper Street, Mr. S. F. Flower, vice-president, in the chair. After the minutes of the previous meeting had been read and confirmed, the following gentlemen were unanimously elected members of the society:—Messrs. W. Perry, A. L. Bostock, F. J. Downes, E. Holt, A. L. Mills, L. E. Morgan, E. C. Stump, and W. Wallwork. The Secretary announced that the Council had decided to arrange for a sale of photographic apparatus, &c., at the January meeting. The Secretary also read communications from the following societies:—Liverpool, Hyde, Ulster, and Birkenhead.

Mr. G. A. Pingstone then read a paper on "The Chemistry of Photographic Exposure and Development," illustrating his paper with several interesting chemical experiments, a full report of which will appear in our next issue.

A paper, by Mr. J. T. Chapman, was also read on "A few Words to Amateurs on Modern Lenses used in Photography," a full account of which appears in our pages.

Mr. Whitham proposed and Mr. Hay seconded a vote of thanks to the gentlemen who had contributed the papers of the evening.

Mr. R. O. Gilmore, in asking for the experience of any of the members with the powdered magnesium for photography at night, has kindly forwarded us a summary of his own experiments, which appears in our pages.

Mr. Whitelow exhibited a photograph of a cat taken by this light; and the chairman also gave some amusing experiences. Mr. Day exhibited prints of Dnnham Park.

Rambles.

BIDDULPH GRANGE.

On Saturday, September 3rd, the party of photographers bound for Biddulph Grange, under the guidance of Mr. Steventon, met at London Road Station at 10-15 a.m. The morning opened out gloriously fine and our journey to Congleton was very pleasantly passed; some of the party discussing photographic matter, and others engaging in an argument on the merits or demerits of that burning question for Manchester men—the Ship Canal. When the train reached Congleton, we seated ourselves in a waggonette (which was in waiting) to convey us to Biddulph, a drive of from 3 to 4 miles. The drive was thoroughly enjoyed by all, passing as we did through some lovely country scenery, which looked very bright and green after the recent rains. When we reached Biddulph, our coachman drove direct to the Talbot Hotel, situated close by Biddulph Old Mill, an old building which is of great antiquity and bears several dates cut in the stones of the structure, and embracing the years from 1500 up to 1600 odd. Whilst some of the party were preparing their cameras ready for action, our leader accompanied by our indefatigable hon. treasurer, reconnoitred the bearings of the mill and found that the light was fairly good for a shot at the gable end of the mill, which also included the water-wheel. Mr. Jones here interviewed the miller with a view to his posing himself at the lattice window overlooking the wheel, but the good man had an objection to favouring us with his lovely form, and gave a very good reason from his own point of view, viz., that on the last occasion he had so been occupied, the party of photographers, he said, "had kept him three mortal hours waiting for his dinner," and so, as the adage goes, "once bitten, twice shy." Not to be beaten we then secured the services of a bonny country girl, who, with the usual weakness of her sex, had no objection to be photographed, and I firmly believe would have sat for hours under the ordeal. Just as we had finished the first exposure a shower came on so we hastened and adjourned to the friendly shelter of the Hotel. Here we were obliged to stay, as the weather showed no signs of clearing up. The hon. treasurer and our leader thereupon entered into a discussion on the properties of single lenses versus R.R. lenses as applied to landscape photography, and so passed the time until the weather had cleared up sufficiently for a further move to be made. In the course of an hour this had taken place sufficient to enable us to drive to Biddulph Grange, the residence of R. Heath, Esq., but here we were again compelled to take shelter during a severe shower. After waiting a few minutes we were enabled to resume our photographic operations. The first plates were exposed in the ornamental grounds, on the part known as the Willow Pattern Plate Gardens, and from the expressions of admiration made on the beauty of this spot, it evidently gave satisfaction to the party assembled. Plates were also exposed on the south front of the Grange, and also on the front of the hall. Tea being ordered for 4-15, we then made our way to the stables for the conveyance, but could not take our departure owing to a further application of water in the shape of another shower. The time was spent in inspecting the stables, horses, &c. which was keenly enjoyed by the younger members of our party and friends. The weather having cleared up we then made our way to the hotel and did full justice to the tea provided by the worthy host of the Talbot. As we wished to catch the 5-55 p.m. train to Manchester, we had to take our departure at once, and in order to do so, unfortunately, were obliged to omit a visit to Biddulph Castle, a picturesque old ruin in the immediate neighbourhood. On our drive back to Congleton this ruin was seen from the road, and the expressions of regret were general that time had not allowed of a visit being made, the ruin itself being well worthy of it. The journey to Manchester was completed in good time, and we arrived at London Road about 7-15 p.m. With the exception of our pleasure being somewhat marred by the rain, each one decided that our trip had been an enjoyable one and resolved that on some future occasion another visit should be paid to Biddulph Grange.

HAWKSTONE.

The members of the Manchester Amateur Photographic Society assembled at London Road Station on the 15th September for an excursion to Hawkstone, near Shrewsbury. under the leadership of Mr. S. F. Flower. On arriving at Hodnet, cameras were quickly unpacked, and views on gelatine and canvas were taken of the quaint village street. Proceeding up the street, other plates were exposed on the black and white cottages and church. When "time was called," the party was then driven to the Hawkstone Hotel and after a substantial cold collation, entered the Park, a domain of singular beauty, swarming with black rabbits; the cragged rocks, hill and dale, wood and water, all contributing in turn to set it off.

The estate was formerly held by a family of the same name, Sir George Hawkstone. who was Sheriff for the County in the year 1416; but it is now held by Viscount Hill. The house, altered in the reign of Queen Ann and again in 1832, contains many historical and other paintings and portraits. In the grounds are the remains of Red Castle, connected with the history of the family, during the civil war; and on the highest part of a noble terrace is a column 100 feet high, bearing a statue of Sir Rowland Hill, the first Lord Mayor of London, of the reformed church.

Tradition states that the ancient Britons had here a city; and afterwards the Romans appear to have had an encampment or town.

Several plates were exposed on a white marble statue erected by the tenantry and friends to the memory of Viscount Hill, 1800 to 1875.

The party visited the various sights, including the lion's den, the deep Roman well, and then entering a deep ravine, found themselves in a long subterranean passage, lighted only by a few wax matches, which emerges into the hermit's cave, the interior of which is lined with beautiful shells, &c., and lighted with colored windows. This had a plate exposed on it.

After a substantial tea the party re-entered the wagonette for the return journey, but some time before the entrance to the Park was reached a halt was cried. A few more plates were exposed on "The Citadel," the residence of the Rev. John Hill.

Question Box

Pyrogallic Acid.—What is it made from, and how? *Ans.* It is obtained from gallic acid by the action of heat. At a high temperature the gallic acid is decomposed, giving off a white vapour, which condenses in lamellar crystals; this is called pyrogallic acid. Gallic acid is obtained from gall nuts which are formed in the branches and shoots of *Quercus infectoria* by the puncture of an insect. They are obtained from Turkey and sold as aleppo galls.

Paint.—What medium is suitable to paint out skies, &c. *Ans.* Use Gamboge or "Bates' Black Varnish."

Sale and Exchange.

(Our Sale and Exchange columns are open to subscribers free; to non-subscribers a charge of 4d. will be made up to 12 words, and ½d. per word extra.

Wanted Lessons on Retouching. State terms, &c., to R.B., 14 Hope Road, Sale.

A Studio Camera, with long extension bellows suitable for copying, &c., folding tail board, one dark slide 5 x 4, with carriers for three smaller sizes, including ¼-plate and lantern sizes. Capital portrait lens with rack and stops—tripod—35/- the lot. 2a Brindle Heath Road, Pendleton.

Chapman's ¼-plate Camera (old pattern) with three double backs, fitted with an excellent Darlot view lens and tripod. 30/-. G. Wheeler, 46 King Street West, Manchester.

Half-plate View Lens with stops. 7/6. 46 King Street West, Manchester.

Our Wide Angle Lens.

Adhesive Mounts.—Having tried a variety of Wolff's patent adhesive photographic mounts, we are able to endorse the statement "that the question of a suitable mounting solution is satisfactorily solved," and we may further add that by means of these mounts, the troublesome and tedious process of mounting is rendered comparitively simple and easy. The price is little more than that usually charged for ordinary mounts of similar quality. The prints adhere thoroughly at the edges, thus relieving the amateur from what is frequently a very great annoyance.

Prints can be mounted immediately the washing is completed, and so easily are they placed in position on the mount that three or four prints can be mounted in as many minutes.

Tylar's plate lifting frames for developing photographic plates.—By means of these simple and useful frames, every operation from development to the final washing, can be performed without the fingers coming in contact with either the plates or chemicals used.

Messrs. Arundel & Marshall have patented a very useful light-tight box for dry plates. It is fitted with paper covered metallic grooves, and is also serviceable for keeping negatives. Its great advantage over ordinary boxes is the compactness with which plates can be stored close together, and yet with sufficient space to avoid contact.

We should be glad to receive the experiences, in the shape of a communication, of any one who has worked the Dusting-on process.

All *business* communications to be addressed to the Hon. Sec., Mr. F. W. PARROTT, 53 Chapel Street, Salford.

Letters to the Editor to be addressed to Mr. WM. STANLEY, 21 Howard Street, Eccles New Road, Salford.

THE

PHOTOGRAPHIC RECORD

THE ORGAN OF THE

MANCHESTER AMATEUR PHOTOGRAPHIC SOCIETY.

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CONTENTS

	Page
General Notes	53
The Chemistry of Photographic Exposure and Development	54
Luke Sharp on Bromide Paper	58
Lantern Slides	59
A Week's Holiday at Port Erin	66
Portraits in Imitation of Old Paintings	68
Memoranda from my Reading and Practice	69
A Really Good Developer	72
A Cheap and Easy Way of Enlarging	73
Manchester Amateur Photo. Socy. Monthly Meetings	75
Our Wide Angle Lens	79
Sale and Exchange	80

General Notes.

Since the last issue of the *Record*, the Society has held its Annual Exhibition and Soiree in the Lecture Hall of the Athenæum, George Street, details of which will be found in the report of the February meeting. Whether we regard the number and quality of the photographs sent in, or the attendance of the members and their friends, the exhibition was an unqualified success, and was a striking example of the rapid strides made by amateurs during the last few years in the art of photography.

In connection with the Liverpool Exhibition, we are pleased to state that one of our members, Mr. J. W. Wade, has gained the second prize for the technical excellence and artistic quality of his lantern slides.

We have received for the library a copy of the "American Annual of Photography." It is got up in the highest style of the printers'art. The matter is very well selected and the book contains six exceedingly fine productions. We have also received a copy of the "German Amateur Photographer," edited by Herr Leisegang. We notice with pleasure that the Manchester Amateur Photographic Society is mentioned in its pages.

The idea of photographic albums for our hospitals and infirmaries is a very commendable one. Mr. A. Hay, of the Royal Hospital, Salford, or Mr. Geo. Wheeler, our librarian, will be very glad to receive spare prints for this purpose.

Secretaries of local photographic societies are reminded that the pages of the *Record* are open to receive papers read before their members, and also reports of their proceedings.

The Chemistry of Photographic Exposure and Development.

By G. A. Pingstone.

IT may have been observed by others beside myself, that whereas, during the past, we have listened to many papers dealing with processes and formulæ, and a few concerning the artistic phase of photography, the scientific and theoretical side of the question seems to have been entirely overlooked and relegated to the bookshelf. And the question arises: Where are we to get this knowledge from? You'll find it in "Abney," somebody says. Yes, a great deal certainly is to be found there, and, as a rule, it is in works of that class, that amateurs are content to let it remain. One great reason for this is, that to those who perhaps have never read a line of chemistry, it is very difficult to wade through most books on the subject, as the writer seems to imagine that his readers will have at least some acquaintance with that science.

Now the greater number of amateur photographers are simply resultants; by this, I mean, that they are content with obtaining results often good, and sometimes bad, without troubling to know, or even stopping a moment to ask themselves the question: Why do these things happen? If the question does occur, as it surely must do to many, I think the answer would naturally be, that the plate had been exposed the requisite time, and the developer correctly and carefully made up from certain formulæ set down; but as to knowing why, even under such circumstances, a negative should be produced, it is to be feared a very large per centage know very little indeed.

This is no doubt due to the idea that a great many people get hold of, that the theoretical or chemical side of photography is of no value to them. They say, "we don't get our negatives by theorizing." Very true, but if someone had not studied the matter well first, your A B C formula would be altogether unknown. In fact, the subject is not half so dry as one would imagine if you can but thoroughly understand and get acquainted with its first principles.

Photography has now reached a stage at which, if original ideas are to be carried out, or fresh discoveries made, a knowledge of chemistry, as applied to this sister science, is indispensable. It is now my intention to state as simply and briefly as I can, the theory of exposure and development, so that having once made a start, some of you at least may be incited to make a more profound examination of the subject, and then, perhaps, we may be treated to a series of original and brilliant papers worthy of a society like ours.

In the first place it is necessary to know of what the film on a dry-plate is composed.

In formulæ given for making plates, we have silver nitrate, some soluble bromide or iodide, say of potassium, often both, and gelatine. Silver bromide or iodide, which are insoluble in water, are formed, and potassium nitrate which is soluble in water; these are warmed up with the gelatine to form an emulsion, which, when cooled, is washed. The potassium nitrate, being soluble, is washed away, and only silver bromide and iodide are left behind in the gelatine. Indeed most of the dry-plates of the present day are composed mainly of silver bromide with a little, and sometimes no silver iodide; these are held in a substratum of gelatine, and as the gelatine is simply the medium for holding the silver bromide, &c., in suspension on the glass plate, no further notice need be taken of it.

Silver bromide consists of the elements, silver and bromine, and may be produced either by acting directly on silver with bromine itself, or by acting on a solution of a silver salt with a soluble bromide. In the daguerreotype we have the former method, and in the wet-plate and the present dry-plate we have the latter process.

This silver bromide consists of one atom—I will call it equivalent if you like—of silver united with one equivalent of bromine, or multiples of this number, viz., two of silver and two of bromine, &c.* ($Ag\ Br.\ \ Ag_2\ Br_2$) What now is the effect of light on this substance. Supposing you take a plate that has been exposed in the ordinary way in the camera, and examine it under a microscope, what difference would you see between the exposed and unexposed parts of the plate? One authority has it that you would see none, and it is only by chemical treatment that we are able to show that it has been exposed, and that some change has taken place.

As long ago as the sixteenth century it was known to the alchemists, that when silver chloride (which they called *luna cornua*) was exposed to light, it darkened, and nothing more was known until Scheele in 1777 began to investigate the properties of this compound.

He noticed that when exposed to light under water, it darkened, and on adding silver nitrate to the water, silver chloride was again formed.

This proves to us, that when silver chloride is exposed to light, a chemical change takes place and chlorine is set free. The light acts just in the same manner on silver bromide setting bromine free. It will at once occur to many, that if such is the case, you will get metallic silver left behind. It is not so, however, as the action takes place and the darkening of the silver bromide continues even in the presence of nitric acid. And the theory is that a sub-bromide of silver is formed, and instead of this silver sub-bromide consisting of two atoms of silver and two atoms of bromine, it consists of two atoms of silver and only one atom of bromine. Silver bromide (Ag_2 Br_2), on exposure to light forms silver sub-bromide (Ag_2 Br), and bromine (Br). The bromine set free is very likely absorbed or held in solution either by the normal silver bromide, or perhaps by the gelatine of the film.

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*This does not mean that one grain of silver combines with one grain of bromine, but in proportion of the chemical equivalents of those elements, viz. silver 108, and bromine 80.

Some writers adhere to the idea that it is only a physical change which the film undergoes, and that the molecules of silver bromide are only disarranged in some form or other. If this were so, one would imagine, that after a lapse of time the plate would return to its normal condition. Such, however, is not the case, and I have one myself that was kept for twelve months after exposure, and it developed as well as if only exposed the same day. That it is a chemical change that takes place in the film, has been further confimed by Professor Carey Lea, of Philadephia, and a paper by him, entitled "Image Transference," appeared in the *Chemical News*, for Nov. 4th, 1887. It is well worthy the consideration of anyone interested in this question.

Having now obtained an idea of the action of light on the plate, we pass on to consider the means by which we can make visible this unseen chemical image, commonly called developing the picture.

The developers best known, have for their bases, either pyrogallic acid or the protosalts of iron, ferrous oxalate being the iron developer almost exclusively used.

Pyrogallic acid or pyrogallol is, strictly speaking, no acid, as it is quite neutral, that is, it does not redden litmus paper, and moreover, it forms no salts. It is obtained by the action of heat on gallic acid. At a temperature of 420° f. gallic acid is decomposed and gives off a white vapour which condenses in very fine crystals on cooling. This is pyrogallic acid.

If we apply a solution of it to an exposed plate, no reaction takes place, even after a lapse of time, but add a drop or two of any alkali, say ammonia, a blackening of the exposed part takes place at once. Pyrogallic acid has an affinity for oxygen, which, on the addition of an alkali, is very much increased, and this alkaline "pyro" has also a very strong affinity for the halogens, chlorine, bromine, and iodine. It is, in fact, a powerful reducing agent.

What then will be its action on sub-bromide of silver? It takes away the bromine and leaves the silver behind in the film, and this is the blackening observed on development.

It will also, after a time, attack the unexposed parts of the plate and reduce the silver in the normal bromide to the metallic state, and thus cause what is termed a fog. Having the developer too strong, or the plate over-exposed, gives the same result. It will, at the same time, be perceived that a prolonged development is undesirable. To prevent the development proceeding too quickly and going on all over the plate, a soluble bromide is added to the developer. This checks the development by weakening the action of the pyrogallic acid. It will be seen, that if you give the pyro more bromide to act on, besides that in the film, you naturally retard its action on the film. For this reason it is called a restrainer.

With regard to ferrous salts, they act similarly to pyrogallic acid, by reason of their strong reducing action, and being then converted into ferric salts.

Ferrous oxalate is the favourite iron developer, and it may be prepared either by dissolving ferrous oxalate in potassium oxalate, or by adding ferrous sulphate to potassium oxalate.

Potassium oxalate is used simply to dissolve the ferrous oxalate, which is insoluble in water, and takes no part otherwise in the process of development.

The image formed by this developer, is, as in the case of the "pyro" developer, formed of metallic silver, and leaves ferrous bromide and ferric oxalate as results of chemical action.

After the plate is developed it is necesssary to get rid of the unaltered silver bromide, as it will not only prevent the passage of light through the plate, but on exposure to light it will naturally darken.

What is required then, is a chemical agent capable of dissolving out the bromide of silver, and yet leave the metallic silver unchanged.

A solvent of this kind is found in what is known as hyposulphite of soda. It is called a fixing agent, although it really does not fix anything. On the contrary, it unfixes the parts of the plate not required.

This salt, when used in excess, forms with silver bromide a double hyposulphite of silver and soda and sodium bromide.

If the hyposulphite be not strong enough, there is danger of a salt called hyposulphite of silver being formed, which is insoluble in water, whereas, the double salt of silver and soda is soluble.

Care should therefore be taken to have your "hypo" strong enough, for, if the insoluble salt be formed, it will not be eliminated from the film, and would result in fog and ultimate fading of the negative.

We have now finished dealing with the development of the plate, and with it comes the conclusion to my short chapter on the chemical changes which are continually taking place, and will take place as long as you continue to use dry plates. You may think this paper rather a dry one too. In that case, you perhaps, may not think it altogether unadapted as a paper dealing with the dry-plate process.

In any case, if the minds of any members of this Society should be directed to these considerations, a more intelligent idea will be entertained of the means by which the astounding processes of photography are produced.

"Luke Sharp" on Bromide Paper.

As I have never seen in print this method of developing bromide paper, I hereby give it, for I think it is worth trying.

I develop the bromide prints, a half dozen at a time. As the bromide paper comes in packages of a dozen, two developings get through with a package. I use six printing frames, and set them round a lamp in a circle. I always use a lamp even in the daytime, and always use the same lamp so that I can calculate exactly on the strength of the light. When the time expires I turn down the light and put the prints in a dish of water.

I have a 10 by 12 shallow dish of porcelain, such as is used for toning, and I take the half dozen prints out of the water and place them face upwards in this, and they completely cover the bottom of the dish. They will stick to their places as if they were pasted there, because they have been soaked in water. Then I take about quarter the amount of the developer that I would need if I were developing them in the ordinary way, using it pretty well restrained, and flow it quickly over the prints. I follow this instantly with a brush of soft camel's hair three inches or more broad, and brush up and down along the surface of the prints. The way the pictures come out under this brushing is one of the most beautiful things in photography. It seems as if a person were painting on the pictures. You can tell exactly when a picture has gone far enough, as there is no perceptible amount of developer over them. The moment a picture is done it is taken out and placed in the acidulated water while the brushing is kept up on the rest until they are finished. The amount of work that can be done in this way would astonish the man who works by ones or twos in the ordinary developing dish.

Lantern Slides.

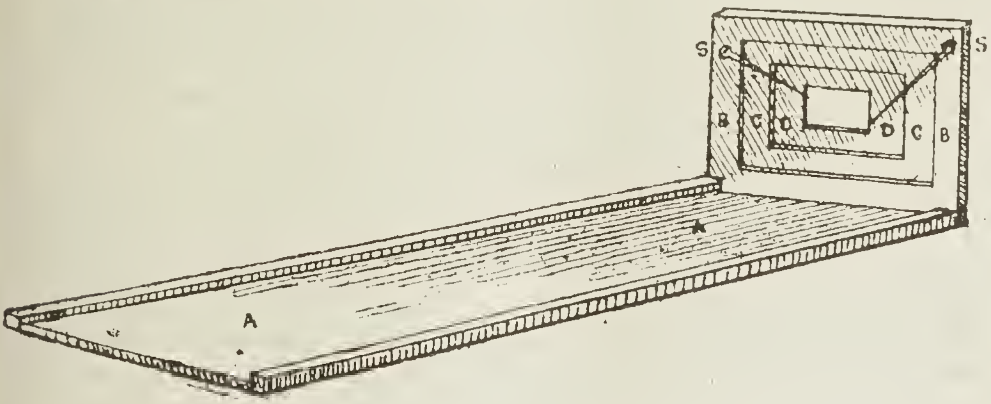
By R. B. Wilson.

(continued)

III.—Wet Plate Process.

WITHOUT going actually into raptures upon this process, I think it is undisputed that slides made by it cannot be excelled, in delicacy and brillancy, by any known dry process. Moreover, it is the only process, save gelatino-bromide, by which transparencies by reduction in the camera can be produced; collodion dry-plates being much too slow, and gelatino-chloride out of the question altogether. The cost, too, is a consideration; slides can be made by the wet process at a total cost of, at the outside, 10d. to 1/- a dozen including the price of glass, and this would be further reduced by utilizing the stock of old and spoilt 3¼ by 3¼ plates, which accumulate in everyone's studio. For these, and also for other reasons too numerous to mention, I think we may place the process first amongst all others, and I am going to describe and discuss in this paper, for the benefit of the amateur workers of our Society, the full details of the whole process, from first to last, prefacing my observations by remarking upon the apparatus necessary.

(a) Apparatus.—Our first requisite is a long piece of deal board, with raised ledges at each side, in which the camera is to slide backwards and forwards, so that we can get the exact amount of the negative that is required properly within the four corners of the slide, and at the end of this is affixed a carrier for the negative, which had better be constructed by a proper photographic apparatus maker, according to the pattern shown, which is by far the best kind,—of course, other than the proper reducing camera with which we are all familiar—and consists of an outside frame, B. B., which receives a whole-pate negative; into this fits the inner carrier, C. C., which will take a half-plate; into this again, a smaller carrier, for ¼ or 5 by 4 plates.



The carrier I use is screwed to the end of the board A. A., in such a manner as to be at right angles with it, and it will be seen that this arrangement enables the worker to reduce three different sizes, without the trouble of screwing on and screwing off. S. S. are two brass clips or springs which keep the negative *in situ.* Instead of this carrier, a home-made one can be constructed by obtaining a box, and cutting out the bottom to the size required, so that it will receive the negative. The inside should be painted with lamp black, and care must be taken, should such an aiticle as this be used, that the axis of the lens is exactly in the centre of the negative, or trouble will arise in getting the picture properly into the exact spot on the ground glass and the detail accurately focussed.

For the camera, a quarter, half-plate, or any other size can be used provided the range of focus is sufficient, and in a camera for this purpose a great range of focus is absolutely necessary. The difficulty is not as to the camera itself, but as to the back, which I say should, must in fact, be a proper wet-plate single back fitted with a carrier to receive a plate 3¼ by 3¼. I have heard of dry-plate backs being adapted to the wet process and subsequently used again for dry-plates, but I do not care to work so. I think that if one is to surmount the difficulties which present themselves in this special branch of photography, one should have at least proper instruments to use, and besides, I think it is being "penny wise and pound foolish," for in makeshifting wiih a valuable dry-plate slide, it may sustain damage, which, in the end, will render our experiments much costlier than they might have been had we started with a proper outfit at first. A wet-plate slide, with a carrier for 3¼ by 3¼ plates, can be obtained at any apparatus makers for 10/- to 15/-, and this amount cannot be said to be ruinous or even prohibitive.

For a lens, of course, any kind will do, but a portable symmetrical is preferable on account of its covering properties, or a rapid symmetrical, in which case a very small stop must be used. I think it may be said that the best kind for the purpose, is a wide angle doublet. I use one generally when working myself, though a rapid symmetrical has the advantage of allowing more light in focussing, and so enabling one to get accurately all the nice and delicate detail which looks so lovely in a lantern picture.

(b) Light, Chemicals, and Manipulations.—With reference to the light used to work by, there is no doubt that it is best to work in the day time, pointing the camera up to the north sky, which varies so slightly in the quality of its light, that, once having got the exposure, the working can be continued with almost absolute certainty. If the camera cannot be pointed upwards to the sky, but is, from circumstances, confined to a horizontal position, then

we must have a sheet of ground glass behind the negative to diffuse the light, and a reflector behind that, placed at an angle of 45 degrees with it and covered with clean white paper, which makes an excellent reflecting surface. It may happen that we must, owing to circumstances, work by night, and thereby are compelled to use artificial light. In which case the best that can be used, to my mind, is magnesium, with which, however, there is one difficulty, that is, to obtain an equality of illumination all over the negative. This cannot always be got by simply moving the light about while the wire is burning. The brilliance of the actual flame is too great, and seems to be apparent in the exposed picture when developed. There must be more equality of illumination than can be got by this method, and the difficulty is overcome by introducing an opal or ground glass screen, between the light and the negative, and burning the light at such a distance behind such screen, that the extra brilliance of the actual flame ceases to be apparent, when the ground glass becoming equally radiant all over, equality of illumination is thereby obtained, and the resulting picture is perfectly harmonious. The distance behind the ground glass screen at which the light may be used to secure this effect, must be ascertained by each worker, and carefully marked off, so that there will be no mistake as to future exposures, There is no doubt that, once having got the exposure by the magnesium light, the working is much more certain than by daylight, the quality of which varies very considerably, more indeed than one would think, even though the north light is obtained. Let me mention before going further, that magnesium wire, on combustion gives off a vapour highly injurious to health, and great care should be taken to avoid inhaling it.

There is no occasion to cover the space between the camera lens and the carrier holding the negative, as the light between them is diffused so much; it might well be argued, indeed, that the diffused light softens the picture, but if the worker wish, he can of course exclude it by placing a sheet of brown paper over the space between, and folding and pinning it underneath the camera, which arrangement enables him to move and adjust his instrument with facility.

Sometime ago, owing to a controversy which I had with a very old worker, who maintained that all diffused light should be excluded between the negative and the lens, I made two transparencies for the express purpose of testing the result, excluding the light in one case, and leaving the space open in the other. I showed the two pictures to several, who said, that if there was a difference between the two, the second was undoubtedly the better, though, in my opinion, there was not a scintilla of difference between them. This shows how opinions differ on such a matter.

Having proper apparatus, we are now ready to prepare the bath. I have before described this operation, and remarked, that it is a serious and responsible proceeding, and not to be entered upon without full knowledge of what has to be done, and a determination to stick closely to rule and formula, measuring everything, and so performing each operation connected with it with the greatest care and deliberation. Assuming that our bath-holder contains 12 ozs. of solution without overflowing when the dipper with the plate on it has been immersed, take 720 grs. pure recrystallised silver nitrate, and to it, add 24 ozs. of water, place it in a white crystal bottle and sun it for a few hours, and then filter 12 ozs. of it into the bath, acidify with 12 to 15 drops of nitric acid, which is best accomplished by diluting the acid before adding it, drop by drop, to the solution.

Theoretically there may be one drop of nitric acid to 4 ozs. of solution, but less than that is sufficient for our purpose. A good plan is to place a blue litmus paper in the solution, and continue to add the acid until the paper slightly reddens. After this solution has been in use for some time it may give fogged plates, and must then be removed from the bath-holder, and the unused solution (which has been sunning all the time) must be acidified and taken into use. The sun has a very beneficial influence upon the silver bath, and whenever the latter is not in use, it is a good thing to bottle it off and place it in the full glare of the sun's rays. The old bath is neutralised by adding soda carbonate until a precipitate is seen to fall, and, when neutralised in this way, should be at once put in the sun and left there to be further dealt with when occasion requires, a little silver nitrate being first added to make up its strength. It will be found, that a bath treated in this simple way, will remain good and in working order for a long time, but, sooner or later, a more serious difficulty will arise. I allude to pinholes. Of course all these difficulties are serious till one knows how to treat them, and then they dwindle away into insignificance, and can be dealt with and laughed at. When pinholes appear, the plate is seen to be attacked by a brownish granular deposit, and, on fixing, is found to be covered with minute transparent spots, caused by the bath having become saturated with iodide of silver. These little transparent spots are the dreaded pinholes, the *bête noire* of the wet-plate photographer, and to get rid of them, the bath must be taken and diluted, say with half its bulk of water, when a precipitate will be formed and thrown to the bottom. A few crystals of silver nitrate should now be added, and then the solution should be transferred to some vessel, preferably the ordinary preserve jar of commerce, to be found in every kitchen, no matter how humble, the jar placed in a pan of water on the kitchen fire, and the whole boiled until the solution is reduced to its original bulk, *i.e.*, 12 ozs. I ought to mention that the bath is useable, sometimes for a long period before anything of this sort happens, and hundreds of slides may be made before any difficulty at all arises, and, though the description of the matter is no doubt very formidable to the eye, yet it is so very simple in practice, that the tyro can soon, with a little patience, thought and care, become so master of his bath as to do almost anything he likes with it in reason. I may add that there is nothing better for an old or much used bath, than occasionally diluting and then boiling it. Iodide of silver is thrown down by the dilution, as a precipate, and can be filtered out, thus getting rid of the pinholes, also the ether and alcohol, which have been absorbed from the collodion, are evaporated and driven off by the boiling, and we have a pure solution which is thoroughly renovated for future work, the operation having just the same effect upon the bath, as a thorough good holiday has upon ourselves when we become jaded and inert owing to the worry and anxiety through which we all have to pass during the year. After the boiling is safely accomplished, the bath may be filtered into the holder, and, after being acidified, it is again ready for work.

The glass for transparencies should be free from all flaws, bubbles, flares, &c., and should not be too thick nor too thin. Very thick glass makes unwieldy, clumsy slides, and difficulties arise subsequently on their use with the lantern carriers. Very thin glass is too fragile for the purpose. There is a happy medium between the two extremes, and it can easily be hit upon with a little care. If old glass is used it should be subjected to a thorough cleaning according to the instructions contained in the photographic handbooks, but if the glass is new, it only requires to be steeped in dilute nitric acid, rinsed in water, and then dried in a rack, being cleaned before use with a moist rag dipped into Tripoli powder, and then polished with a silk handkerchief. Just a word about this. Don't polish too much, if you do, electricity is generated, and the collodion is repelled, subsequent slipping of the film occuring. To be quite safe, it is advisable, after polishing, to let the plate stand for half a moment before coating with the collodion.

A great many workers and writers have laid down, that before the plate is collodionised, a preliminary coating of gelatine or albumen should be given to it in order to ensure that the film shall adhere to the glass throughout the subsequent manipulation, and so prevent slipping or over-lapping. I do not see that such preliminary coating or substratum, as it is called, is necessary. Its use greatly increases the detail of working, but for such as like to leave no stone unturned to secure good results, full instructions how to compound and apply the substratum, and subsequently treat the plate in drying, will be found by reference to Captain Abney's treatise, where the subject is dealt with so very fully and so lucidly, that anyone may understand it. Whether a substratum is applied or not the subsequent operations are identically the same in either case. Any collodion may be used, either positive or negative, provided it is not too new. If it has been iodised say at least two months it is in very suitable condition. The operation of coating the plate I have before described. There are many ways of holding it whilst pouring the collodion on to its surface, but it really does not matter how it is held, provided an even coating is given, the plate being carefully rocked as the surplus collodion is poured off to prevent it setting streaky. When looked through, the plate should appear perfectly transparent and clear. The moment the collodion has ceased to drop and has sufficiently set, the plate must be placed upon the dipper, and lowered steadily, and without stoppage, until it rests upon the bottom of the bath, when it can be gently moved in a circular direction a few times, and then left to rest for at least three to five minutes, at the expiration of which, it is taken out, by raising the dipper steadily, and without stoppage, and placed in the dark slide, having been previously drained for a moment on a piece of clean white blotting paper to get rid of surplus silver solution, which would, otherwise, run on to the slide and rot the wood.

It is a good plan to wipe the back of the plate with blotting paper for the same reason, the paper being thrown into the waste box, to be subsequently sent, along with the other contents, to the refiner. Having closed the dark slide, the exposure is made by any of the modes indicated, and we are ready for development, which is accomplished by treating the exposed film with a solution of photosulphate of iron, 30 grains to the ounce of water, acidified with a little acetic acid. Various strengths of developer are used by various people, and other substances are added—sugar being perhaps the most used, and formic acid. I do not know any reason for adding anything save the iron. Other substances (organifiers as they are termed), are said to have an influence upon the color of the transparency, but I do not know; the development is certainly retarded by such addition. I think it is good to keep various strengths of developer ready to hand, as such are useful when ones' negatives vary in density. For instance, if my negative be a thin one, I use a weak developer, with which the silver is precipitated slowly and the shadows are gradually built up, great contrast being obtained. If the negative be hard, I find a strong developer is best, for opposite reasons. Take for an average developer, 30 grains iron to one ounce of water, and add ten minims of glacial acetic acid, and mix up very little of it, using it only so long as it remains bright. I always discard a developer for lantern work, which is at all decomposed. I think it induces stain, in any event it is cheap enough, and, provided only a little is mixed at a time, there is not much waste. After exposure, apply sufficient of this to cover the plate, holding it with the left finger and thumb, or with a pneumatic holder, and be careful not to allow any of the solution to run off into the sink ; a little practice will render you expert ; the picture comes up very rapidly, and density is soon obtained, when the plate can be well washed under the tap and fixed. I recommend hypo for this purpose. It is said it is destructive to the film, but I have made scores, nay hundreds of slides, and have always fixed with hypo and given about five minutes washing under the tap afterwards.

Just before writing, I have been looking at some slides made years ago, and they are bright and brilliant, and appear to be in no wise affected with fading.

The washing being finished, the plate can be placed in a rack and left to dry spontaneously, or can be dried off straight away before a red fire or over a spirit lamp. I have met with samples of collodion which puckered up and split when dried with heat, but very rarely. As a general thing it is quite safe to treat them as I say. If it be desired to alter the color of the slide, which is termed toning, various salts may be used, but my experience is, that in the lantern slide produced by the wet plate process, neither intensification nor toning is needed.

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In the discussion following Mr. Wilson's paper, Mr. E. Ward said, that as a wet-plate worker, he quite agreed with the reader of the paper, as to its great superiority over other processes for the production of lantern slides, and reminded the members that at an exhibition meeting of the Society, he had exhibited on the screen, lantern slides, prepared by various processes from the same negative, and that then, the superiority of the wet-plate was at once recognised.

Mr. Ward objected to the reader's statement, "that as soon as the collodion ceased to drop from the corner of the plate, the plate should be immersed in the bath," as that must inevitably lead to a faulty and partly insensitive plate, but. he maintained, that as soon as the collodion had set so as to bear the finger at the bottom corner, that was the time to immerse the plate.

He also criticised the statement, that wet-plates needed no intensifying or toning ; and said that a slight intensification gave that pluck and brilliancy which was such a feature of wet-plates, although the color of untoned collodion pictures was neither pleasant nor artistic.

A Week's Holiday at Port Erin.

By J. W. Wade.

I HAVE brought a few pictures this evening which have been taken on a trip to the Isle of Man last Whit-week. They are of a good, bad, and indifferent nature, but allowance should be made for the difficult circumstances under which some were taken. To get away from the busy life of Manchester for a Whitsuntide holiday, I could not think of a better place than Port Erin, and it was to that quiet spot we made our pilgrimage. When we left home at eight o'clock on Saturday morning, the sky was overcast, but on arriving on the banks of the Mersey the sun showed his face, and from that time until coming home we had only one short shower. We at once embarked on board the new and splendid steamer, Queen Victoria. How often do we see these two adjectives employed on advertisements of steamboat trips, but how very rarely does the real come up to the ideal. In this case they are both correct. "New"—for this was her first official trip. "Splendid" she was without doubt. You could imagine yourself on one of the Atlantic liners, only she travels quicker. As we passed down the river, we passed Umbria, Alaska, and the troopship Assistance. Much lively interest was evinced on board as we swept past on our way seawards. Just before we entered Douglas Bay we had a most charming picture presented to our view, the dark green waves breaking into foam against the brown rocks about Port Skillion, the white lighthouse above glittering in the sun, while in the foreground was a brown-sailed fishing smack labouring in the sea. In a few minutes after this we were fast to the pier at Douglas. Why cannot they build their piers and promenades on more steady foundations? Even the streets, as we walked, went up and down so as to give us the idea that the island was floating, but, as it gradually settled down and no one seemed to notice it, we concluded it must be a usual occurrence. We spent the afternoon in Douglas wandering about the Head and in the shady walks of the Nunnery grounds, where I got some good stereoscopic views. After a jolting, but otherwise pleasant journey, we arrived at our destination about half-past six. Have you ever been to Port Erin? I have been once before for a day, but I had no idea of the beauty of the place until I explored it as we have done. The bay is almost circular and about half a mile across, defended on the north by the bold headland of Bradda, and on the south by the more sloping Cassels. Our abode was about equi-distant from these two headlands and close to the shore. As we turned out in the evening the sun was just nearing the horizon, and all was quiet—the only sounds were the lapping of the waves, and the mournful cry of the sea-gull. A couple of fishing boats were riding at anchor in the bay. Sheltered by Bradda we found several little rocky creeks, ranging from four to a dozen yards wide, and the grassy slopes above laid out with charming walks. It was here we came in the mornings and evenings, when the east winds blew cold. To enjoy the coast scenery one has to take a boat and view the stupendous cliffs from the sea. Pulling smartly across the bay we round Bradda Head and have above us a wall of rock 300 feet high, with strata of every conceivable discription and form, and pierced with many a cavern. We selected one for exploration, and backed the boat into it. It was not a very large one, but I cannot describe its beauty; the water was clear as crystal, and as we looked into its depths we saw the most vivid colouring—the greens ranging from the bright emerald to the sombre olive; the red, scarlets and crimsons, and the numberless browns in all tones, and those beautiful sea-flowers, the anemones, waving their feathery arms, made the place look like a veritable sea garden. Once more we were dancing on the waves, and pulled ashore at a tiny beach under the shelter of a huge boulder—much larger than the famous Bowder Stone. Here we visited some old copper mines, which were at one time worked by the Romans. We spent some time climbing over the rocks, photographing and sketching. Another day we walked to the extreme south of the Island to see some wonderful chasms. They have evidently been formed by an earthquake, and are cracks about a yard wide, and of great depth. Near here on a kind of platform is a small but perfect Druids' Circle. Being anxious to obtain some sea-gulls' eggs we climbed down the cliff, and never shall forget that climb, nor shall I ever repeat it; it was a case of hanging on with finger nails, teeth, and eyelids. After we had gone down about 200ft., we came to an abrupt precipice, and we could get no further, but we had got amongst the nests, and the sea-birds were screaming round us in hundreds. We managed to secure five eggs, and then began our journey upwards; after half-an-hour's climbing we got to the top, thankful. Near the chasms is the Sugar Loaf Rock, a huge rock out of the sea a short distance from the cliff. Another memorable "out" was to Fishwick Bay, a solitary place about two miles from Port Erin. The walk over the sweet-scented, gorse-covered hills was most enjoyable. On the beach were a few fishing boats. One of these we launched and rowed away in search of caves and other natural curiosities. We came to one of the latter, which it was impossible to get to except by water. It consists of an arch in the rock, about sixty feet wide and eighty feet high. I fancy it has once been a cave and has fallen away from the main rock, for behind is a little creek into which we rowed and viewed the arch from inside. It was a most impressive sight; and I don't think one in a thousand who visits the island knows about it. There were many places we had to leave unvisited, and we left with regret on Thursday morning for Douglas. Finding Douglas so crowded we quickly betook ourselves to Glen Helen, where we revelled in the beauty of woodland stream scenery until the setting sun warned us home. Friday morning we embarked on board the Prince of Wales at ten o'clock, and soon after leaving Douglas a steady downpour set in and continued until we reached home. About half-way we overtook the Snaefell, she having set off an hour before us; and soon after the Lancashire Witch, which left an hour and a half earlier than us.

Portraits in Imitation of Old Paintings.

BY KARL KLAUSER.

These may be effected by the following easy process: For a background procure a coarse canvas—the common furniture packing called, I believe, "burlap," will do. Nail it with tacks on a frame, say 2 by 3 yards, and stain it with a medium dark brown color, mixed with water and a little glue or skimmed milk, taking care not to clog the threads of the canvas. Place your subject against this background, and after exposure, according to the sensitiveness of your plate, close the cap, remove the plate-holder, and without moving the camera from its original position, focus anew on the canvas, the figure, head rest, &c., having been removed. Expose again for the plain canvas the same duration as for the portrait, or longer if you want the texture of the canvas showing more prominent. In order to facilitate the focussing on the dark background pin a scrap of a large printed newspaper advertisement on it. The length of exposure on the plain canvas will depend on the qualities of the plate, and of the lens. If not long enough, the lines of the canvas will show but faintly; if too long the canvas lines will be too predominant. Any sea or landscape negative might be treated in a similar way in order to give it the appearance of a copy from an oil painting by an after-exposure before developing on a plain canvas, which, for this purpose, should be of a finer texture, and a rectilinear lens used instead of a portrait combination. The printing ought to be carried somewhat deeper than for ordinary portrait negatives.

VARNISH FOR BLACKING BRASS-WORK.—Take the ordinary spirit-lacquer of the shops, and rub it up with vegetable black into a thin cream, afterwards filtering through muslin. The brass-work must be heated before this varnish is applied.

Memoranda from my Reading and Practice.

On Exposure.

THE intensity of light is greatest in June, and least in December, greatest at 12 o'clock noon, and least at sunrise and sunset.

From April to September the intensity of the light, or, what amounts to the same thing, the time of exposure, remains about the same between the hours of 10 to 2. From September to April, between 11 and 1 o'clock.

Before and after these hours the time should be increased, moderately in summer, more considerably in winter.

White clouds increase the intensity, gray ones diminish it.

Distant hills will photograph in one-half the time an object in the same light will, ten feet from the camera.

Always time exposures for the shadows. There may be exceptions, but let the high lights take care of themselves.

With south and east winds there will be much heat and haze and but little true light.

Diffused light is often better than direct sunlight, as its brightness is apt to eclipse the true ray.

Never photograph with the sun directly behind you; the result would be excessively flat, all light and no shadow.

On Photographing Various Subjects.

In photographing statuary, use a screen over skylight or windows to reduce excess of illumination.

For oil paintings a good result may often be obtained by wiping them over with a soft damp cloth and photographing immediately. A cloudy day is preferable, and never copy in the rays of sunlight.

In figure posing, small eyes should be directed slightly upward. Staring eyes a little downward. Deep-set eyes full view.

Never turn eyes in a contrary direction to that of the head. Generally they should be a shade in advance of the direction of the head.

Hands should, if possible, always have their *edges* to the camera.

In taking landscapes equalize the distance and sky by shading upper part of lens with hand, moving it continually during exposure.

Foliage is best photographed immediately after a shower of rain when the leaves are glistening with moisture.

Atmospheric effects of haze are best produced by a side front light, camera being set in direction of the sun.

MEMORANDA FROM MY READING AND PRACTICE.

A light cloudy day is best for photographing the sea, to avoid a flood of light in its surface, which kills all reflection.

Shadows of buildings, the larger the better, give the best results to make portraits in. They make very luminous pictures and provide an even and steady distribution of light.

A great amount of uninteresting foreground may be avoided or condensed by slightly altering the height of the camera.. By lowering it a great deal of the blankness of foregrounds may be avoided.

In marine views have the lighting obliquely from the front, as owing to the large volume of reflected light, the shadows would be well illuminated and the reflections most brilliant.

Never let the horizon line cut a picture into exact halves.

Remember to always stop a clock in taking an interior to avoid blurring of the hands.

For focussing in dark interiors use a ground glass with about a square inch unground in the centre. On this section of plain glass any object will show clearly and allow the sharpest possible focus to be obtained.

THE USE OF DIAPHRAGMS.

The larger the stop used the more detail to the shadows will be obtained.

A large stop always gives a bolder picture, a small stop leads to flatness.

Never use smallest stop unless it is positively necessary. Only stop down till definition is clear to edge of plate.

A large stop increases aerial perspective, a small one diminishes it.

Focus always with largest stop and stop down afterwards.

Diaphragms should only be used to get a sharp picture all over the plate.

The largest stop that will effect this is the right one to use. A smaller will give only monotone pictures without any advantage.

INSTANTANEOUS WORK.

In the spring the actinic property of light is most active and best for instantaneous pictures.

The later the time of day, according to light, larger opening of lens must be used.

The most perfect instantaneous work is produced with short focus lens.

When using a square camera, by placing the eye at any of the four corners and looking along the edge, the object, which is seen in that line of vision will, if exposed when it is in line with the corner, be eventually found in the centre of the negative.

DEVELOPMENT.

The longer the plate remains in the developer the greater it increases in intensity. Intense negatives are hard to print, and plates should be developed only for intensity enough to give all the detail with good printing capacity. This can be done by lessening pyro and working with slow alkali solution.

When development seems at a standstill put a few more drops of alkali solution in developer to finish.

If any particular part of plate refuses to fully develop, pour developer into graduate and from graduate on that part repeatedly and breathe upon the part between doing so, till it comes up equally with the rest of plate.

When plate is properly exposed a weak developer will bring out the darker parts to perfection without over-developing the high lights.

When contrasts are very strong, reduce the pyro and develop very slowly, or negative will give a chalky print. For subjects wanting in contrast develop quickly.

If contrasts are naturally weak, as is sometimes the case in open landscapes, increase the strength of all the ingredients, especially of pyro and bromide.

In developing interiors let plate soak in pyro solution alone for a couple of minutes, and commence real development with weak alkali solution, strengthening it as development proceeds.

Stop development when there is no longer any pure white left on plate and when high lights can be seen at the back. This is not true of all plates, however.

Lights should be transparent, and, roughly speaking, the denser parts should appear almost, if not quite opaque.

The alkali should be weakened a little in summer and strengthened in winter. Bromide should be added in summer and decreased in winter.

If in using a strong developer a negative starts all over almost immediately, extreme softness may be obtained by removing the plate to a pan of clear water. The action of developing will continue and can easily be controlled.

Always use freshly mixed solutions for drop-shutter work.

For instantaneous exposures treat plates with weak alkali bath first, previously washing well in clear water, then wash off alkali bath and commence real development. Plates so treated, however, must be allowed a little more pyro than usual.

Soaking plates for five minutes or more in clear water before washing under running water, after removal from developing solutions, will clear the plate better than washing under the tap alone.

The secret of getting good negatives lies in using a developer strong in all the constituents, and in giving a slightly longer exposure than might otherwise be thought necessary.

Bromide of soda is much better than any other bromide for restraining, used with soda or potash developers.

After plates come out of the hypo while washing, brush them off gently with a soft brush or wad of cotton, to remove all sediment which becomes deposited upon them.

PRINTING.

Dodge a chalky negative by covering back with tissue or tracing paper and paint with gum arabic over positions of high lights.

With a weak, thin negative, put a piece of light green glass over it in printing frame.

Print weak negatives in diffused light, strong ones in direct sunlight.

MATS FOR MOUNTING.

Dark mats are best for heavy shadows, buff for chalky high lights, and cream white or light straw for bright high lights.

American Annual of Photography.

A Really Good Developer.

The formulæ is as follows:—

No. 1.

Pyro	1 oz.
Sulphite of Soda	8 oz.
Metabisulphate of potassium ...	1 oz.
Water	16 oz.

No. 2.

Carbonate of Soda	8 oz.
Bromide of potassium	160 grs.
Water	64 oz.

For developing a correctly exposed plate use:—

1 ounce of No. 1. 1 ounce of No. 2. 2 ounces of water.

The proportions of No. 1 and No. 2 must be varied according to the character of the subject and length of the exposure.

The metabisulphate of potassium is the new ingredient in the formulæ, and possesses some excellent qualities. It is a splendid preservative of the pyro and saves the fingers from being stained. It also acts well if used on Eastman's films.

It will produce bright and clear negatives, in color much like ferrous oxalate, and possessing quick printing qualities.

A Cheap and Easy Way of Enlarging.

By G. H. Rigby.

OUR worthy Editor having asked me to give a paper explaining the method I used to produce the enlargements I exhibited at our late soiree, I felt rather diffident about doing so, from the fact that I have nothing new to say; but when I think there are many who are kept from enlarging by a false idea that a deal of expense and trouble is necessary, and who, after reading this explanation of a cheap and easy way of enlarging, may be induced to try, my diffidence is removed, and I shall be extremely pleased if it is the means of overcoming such false ideas and inducing any to give it a trial.

When I commenced enlarging I was astonished at the ease and simplicity of it, and since then have been more astonished that so few amateurs go in for it, and can only put it down to the above reasons. As regards apparatus, nothing is absolutely necessary beyond your own camera and lens, fixing and developing dishes, an easel and a washing board. I enlarge by daylight, thereby saving cost and trouble of a lamp. For my 8½ by 6½ negatives the expense would be very great, requiring large and consequently expensive condensers. My dark room having a comparatively large window in it I have made shutters to exclude the light. In the bottom one is fitted a frame the size of my camera back, against which it fits, after removing the reversing back. In this frame there is a carrier into which the negative to be enlarged is placed and held by brass buttons. Having previously placed outside the window a reflector at an angle of about 45 degrees, the camera is put in its place on the frame, and held there by the hooks that are used to keep the reversing back in its place when on the camera. A common table must now be put in its place which must be square with the camera. The easel is put on the table, and a drawing board on which has been pasted a white sheet of paper for focussing, is put on the easel, which must be of course perpendicular and square with the camera. The picture must now be focussed on the board, which is easily done by moving the easel along the table and by using the focussing pinion of the camera, which must be at the side. A camera with a focussing screw at the back will not be suitable. Having focussed the picture the size required, I put two pins at each top corner of the picture, to show where to fix the bromide paper, and then capping the lens, the board must now be removed and the bromide paper pinned upon it. I find common dressmakers' pins the best for the purpose, being more easily put in and removed than drawing pins. Having replaced the board on the easel, uncap the lens and expose. The exposure required is the most uncertain and difficult part of the whole operation. It may be a bright day to begin with and presently go dull, and vary so much as to be extremely puzzling. The two first enlargements I made were correctly exposed, they were 15 by 12 inches, but the same exposure would not do, of course, for a 23 by 17 picture, using the same stop, as the distance from the lens would have to be greater and consequently weakens the light. I have exposed from twenty minutes to six hours, according to light, stop, density of negative, &c. Outside my darkroom I have double curtains so that I can leave the room and go for a walk while my picture is being exposed. A good plan to get an idea of exposure required is to expose and develope a strip of paper before using a whole sheet. Be sure to have the reflector large enough, so that no trees or buildings are in range of the lens. Mine is about 2 ft. by 3 ft., and consists of a board covered with two thicknesses of white calico. Two folds will be found whiter than one, Calico, I consider better than a mirror, the latter reflecting black clouds, &c. It is also better than paper as it can be washed when it is dirty. A sheet of iron, enamelled white, would be better still. Any lens will do to enlarge with providing you have light enough to focus by, and it covers the plate. A rapid doublet is mostly used. For 8½ by 6½ plates a 10 by 8 lens would be better than a 8½ by 6½, as good definition to the edge of plate would be obtained with a larger stop. This is an advantage, as it means shorter exposure. I have used both a rapid doublet and a landscape lens. My Wray's W. A. landscape lens having a very wide aperture, I think about *f*/8, I have plenty of light to focus with, and I then stop down to obtain definition. For a view with straight lines near the edge of the plate a rectilinear lens of course is better, on account of freedom from distortion. The distortion with my landscape lens is so slight as to be of no consequence unless it was for copying plans or maps. To try it I drew a line along a plate with a pin, about half an inch from the edge, I then enlarged it to 23 inches and found the distortion was only $\frac{3}{16}$ inch. The easel I use consists of a baseboard, about 2 feet long and 18 inches wide, at one end of which are hinged two upright pieces, having cross pieces; in the bottom one are two pins that fit into corresponding holes in the board, which, with two hooks at the top, keep the board in its place, and enable it to be taken off and replaced exactly in the same position. The upright front is kept in position by a stretcher at each side. When not in use it can be folded up. I made it to correspond in height with the negative in the camera, which is fixed at the bottom of the window. The window must be wedged to prevent vibration from wind, &c.

My first two enlargements were blurred through not taking this precaution. It is better also, I find, to have a support under the camera. I enlarge through the glass of the window which must of course be clean. My dishes have wood frames and glass bottoms. I had the frames made of hard wood, and varnished with coachbuilders' hard finishing varnish, which seems not in the least to have been so far affected by the solutions. I use Eastman's C. paper and follow their instructions in developing, formula for which they give with the paper. The paper having been taken off the board after exposure, I turn up the edge all round about ¼ inch deep, and if smaller than the developing dish, strips of wood about 1 inch by ¼ deep, are laid on two sides, and after soaking the paper with water and removing with a lump of cotton wool any unevenness in the paper, the developer is applied. The image appears in about twenty-five seconds, and is fully developed in 1½ to 2 minutes. Be sure not to finger the paper except at the extreme edge, or stains will result. After pouring off the developer the acid solution is applied three times, which prevents any discolouring from the developer. The acid is then washed out with several changes of water and the picture then transferred to the hypo bath, for at least twenty minutes, then washed. For washing, I use a board with a rib at each side, it is well coated with varnish to prevent the absorbtion of Hypo. After pinning the enlargement on, a lead tube perforated with a row of small holes is laid across the top and connected with the tap by means of a rubber tube. The board is raised at one end about 18 inches, and the water tnrned on. I leave the photo to wash for two hours, having turned and squeezed it several times. Should anyone desire further information, or wish to see my plan of working, I shall be pleased to show it.

The Manchester Amateur Photographic Society.

The Third Annual Meeting of the Manchester Amateur Photographic Society was held on Tuesday evening, January 31st, in the Lecture Hall of the Athenæum, the Rev. H. J. Palmer, the president in the chair.

The council in their third annual report, which was presented to the meeting and adopted, congratulate the members on the continued prosperity of the Society. The increase in the number of members is exceedingly gratifying; eighty-five new members (including five ladies) have joined the Society during the past year, making a total of 244. Of this number the Society has lost twenty, eighteen from removal and resignations, and two from death, leaving a net total of 224 members. This rapid increase in the membership has necessitated the removal of the Society's meetings to a larger room. The Council have, therefore, engaged the large Lecture Hall of the Manchester Athenæum for the future meetings. This Lecture Hall will accommodate over 500 persons, so that members can now invite visitors, as they are entitled to do. The Treasurer's account showed a balance in hand of £17. This is very pleasing when compared with the balance, three shillings, left from last year. During the past year, the Council, supported by an influential list of guarantor members, have started a quarterly magazine, as the organ of the Society, with the registered title of "The Photographic Record." Two numbers have been issued under the Editorship of Mr. Wm. Stanley, and have had a most gratifying circulation. The Library now contains 126 volumes and comprises most of the standard works on photography published to the present time. It has been largely used during the year, 212 volumes having been issued by the Librarian. This is a healthy sign, and indicates a desire on the part of the members to obtain the best information on photographic matters. Fifteen shillings and sixpence have been received for fines, part of which has been expended on new books, and it is intended to appropriate all monies received from this source to similar purposes. The number of books has been added to during the year. The council recorded the formation of a lantern slide cabinet, and presents of slides had been made by Messrs. S. F. Flower, J. S. Watson, and J. A. Furnivel. The attendance of members at the various meetings had been good, considering the many counter attractions of the year. The first four lady members of the Society were elected in May last.

The meeting approved of bye-laws in reference to the lending of the lantern of the Society, and for the publication of the new quarterly magazine. The appointment of Mr. Wm. Stanley as editor was also confirmed. The council which were elected consists of the following members: The Rev. H. J. Palmer, M.A., Rev. H. V. Macdona, Messrs. J. G. Jones, F. W. Parrott, S. F. Flower, James Davenport, G. Wheeler, H. Smith, J. W. Wade, J. A. Furnivel, R. B. Wilson, J. H. Seed, James Whitham, G. H. Rigby, R. Graham, T. M. Brooke, C. Dawson, and C. H. Wolff. The new council appointed the following officers: President, The Rev. H. J. Palmer, M.A.; Vice-Presidents, Messrs. S. F. Flower, J. Davenport, J. W. Wade, and R. Graham; Treasurer, Mr. J. G. Jones; Honorory Secretary, Mr. F. W. Parrott; Librarian, Mr. G. Wheeler; and as auditors, Mr. J. Bathe and Mr. W. W. Dawson.

Messrs. R. Graham and C. H. Wolff having declined to serve on the council, Messrs. T. Carter and G. J. Crippin were elected in their place. Mr. H. Smith accepting the position of Vice-President.

MONTHLY MEETINGS.

The Monthly Meeting was held January 10th, 1888, at the Masonic Hall, Cooper Street. The President in the chair.

Messrs. John Hanmer and Wm. Tomlinson, jun. were elected members.

Mr. G. H. B. Wheeler gave a short demonstration on Retouching, in continuation of his paper read at the meeting held in June, 1887, illustrating his remarks by drawings worked in chalks to show how and where to improve negatives by working in pencil on the film before printing.

Mr. John Banks Mercer, Auctioneer, assisted by Mr. P. Dalton as clerk, offered for sale by auction 24 lots of surplus apparatus the property of members. A vote of thanks was passed to Mr. Mercer and Mr. Dalton for their services.

On Tuesday evening, February 14th, the Society held a soiree and exhibition of photographs in the Lecture Hall of the Athenæum. There was a crowded attendance of members and friends, who were entertained at intervals with music, and also with a lantern exhibition, in which a number of slides were thrown on a white screen, illustrating scenes taken by members chiefly during their summer rambles, the manipulator of the lantern being Mr. J. G. Jones. On the walls and tables round the room there was a display of sketches by members, comprising landscape, architecture, and portraits, many of them being quite equal to the work of professionals. At half-past seven the chair was taken by the President of the Society, the Rev. H. J. Palmer, M.A., of Ashton-under-Lyne, who delivered a brief address. He said it seemed only the other day that they launched their society in the midst of several other societies in this city, yet such had been its progress that it now numbered 240 members, being an increase of ninety during the past year. It now ranked almost first among the amateur societies of Great Britain in numbers, and he thought, from what he saw upon the walls, the company would agree with him that it was certainly among the first in the excellence of the work which its members produced. (Applause.) The number of prints, enlargements, and lantern slides exhibited exceeded one thousand, and the members and friends present, as shown by the tickets handed in at the doors, reached the magnificent total of 620.

The Monthly Meeting of the Society was held on Tuesday evening, March 13th, at the Manchester Athenæum. The president, the Rev. H. J. Palmer, M.A., in the chair. The following gentlemen were elected members: Messrs. John Bardsley, South Whalley Range; Charles Bond, Chorlton-cum-Hardy; P. W. Bryan, Pendleton; J. C. Husband, Cheetham Hill; John F.

Moseley, Heaton Mersey; Edgar Pickard, Denmark Road, Greenheys; J. A. Smith and J. W. Welch, Stretford.

Mr. J. W. Wade, one of the Vice-Presidents, read a paper on the History of a Lantern Slide. The paper was a description of Mr. Wade's method of making lantern slides, and showed the history of a slide from the time it was purchased from the dealer, through the various processes of exposure, development, fixing, reduction, intensification, and mounting, to its final exhibition in a lantern. Mr. Wade seured the attention of the inexperienced members by his graphic description of even the simplest operations, whilst the more advanced were delighted with the host of "wrinkles" and formulæ given.

The President, in commenting on the excellency of the paper, mentioned that Mr. Wade had been awarded the bronze medal at the Liverpool International Photographic Exhibition, for the beauty and excellency of his lantern slides.

Mr. R. O. Gilmore, author of the paper on "Instantaneous Photography at night," published in the January number of the Society's organ *(The Photographic Record)* gave a demonstration of the Flash Light as used in Photography. He explained that the light from burning magnesium was sufficiently actinic to take photographs by, but burnt alone it was too slow to take portraits. By mixing powdered magnesium with gunpowder the light burnt much quicker, but the smoke and fumes from the gunpowder rendered the use of this mixture impracticable in ordinary rooms. Mixtures of chlorate of potash and other chemicals with magnesium give good results, but the use of chlorate of potash was extremely dangerous, whilst gun-cotton dusted over with powdered magnesium gives a flash light that is practically instantaneous, gives off very little smoke, and is quite as safe as the gas we use daily in our homes. Gun-cotton is explosive only when burnt in a confined space, as in a cannon or a hole drilled into a rock for blasting purposes. To show this Mr. Gilmore took a piece between his finger and thumb and applied a lighted taper. The gun cotton burned quickly with a flash, but noiselessly and without danger. Mr. Gilmore proceeded to exhibit and explain his method of firing the charges of gun-cotton and magnesium. For dark interiors, such as a crypt or the interior of a cavern, like Poole's Cavern in Derbyshire, it would be necessary to fire several charges from different points. This could be done one by one, or, better still, simultaneously, by passing a current of electricity through fuses placed in the gun-cotton. To show the application of this, Mr. Gilmore exhibited apparatus and fired off simultaneously three charges of gun-cotton and magnesium in different parts of the room. The apparatus used was entirely home-made, and it was shown that any amateur could construct similar apparatus in a short time and at the cost of a few shillings. For portraits all that is required is an empty biscuit tin with a small spirit-lamp placed inside, a suspended cage to hold the gun-cotton, and a wire by means of which the cage can be drawn into the flame of the spirit-lamp. Reflectors of white paper are used to prevent too dark shadows.

Mr. James, of London, sent one of his Patent Lamps for exhibition. The lamps are constructed of one or more argand gas-burners. These are connected by tubing to a gas supply and the gas lighted. Charges of powdered magnesium are placed in a conical box behind, and, by means of tubing, blown through the centre of the gas flames. Several members had brought their cameras, and plates were exposed on groups of the members, some lighted by Mr. Gilmore with his apparatus, and the others by the Secretary with the James Patent Lamp, the results to be shown at the next meeting. In spite of the cold and keen winds about 240 members and friends were present.

Our Wide Angle Lens.

There are two great lines on which photography is advancing to-day; as a means of acquiring scientific fact, and as a means of reproducing works of art.

On the continent, as well as in England, the work of mapping the stars by the aid of photography has been planned, the task divided among a number of observatories situated in different parts of the world, and objectives of similar qualities are in process of construction for the use of these observatories, so that the conditions may be the same.

It is estimated that ten years will be required to complete the undertaking.

A great impetus is being given to microscopic work by the use of Abbé and Zeiss's New Apochromatic objectives and eye-pieces in photo-micrography; and probably a photographic reproduction of a microscopic object will before long be accepted as the most useful, the most faithful, and altogether the most perfect educational and critical delineation obtainable.

Story telling by photography is not so difficult, if we have a definite idea of what we are going to tell.

It is astonishing what pleasing results can be secured by the exercise of our own ingenuity, by calling into service just such common things as are in every-day use.

The most diverse things will fill in and adapt themselves to one another, and so become real helps to pictorial effect, instead of the hindrances we at first thought them to be.

However, do not crowd too many things in your picture. They will be like factors in an equation—demand a hearing in the summing up.

Too much detail always detracts from the general interest. It is best to express our ideas in the fewest possible terms consistent with clearness, in photography as well as in writing.

Be sure that everything is in harmony with your scene. A misplaced object, like a false note in music, mars all.

Sale and Exchange.

(Our Sale and Exchange columns are open to subscribers free; to non-subscribers a charge of 4d. will be made up to 12 words, and ½d. per word extra.

Lens Wanted. Rapid Symmetrical, Half or full plate, also 10 by 8 or 12 by 10 Rectilinear suitable for copying, &c., as part exchange, "Grubb's Patent Aplanatic" 7-inch focus. Address, J.E.T., 19 Alfred Street, Lower Broughton.

Will exchange "British Journal" for "Photographic News" from commencement of 1888, and weekly; clean with supplements. J. Higgin, 202 Upper Brook Street, Manchester.

Whole-plate Camera, bellows bodied, two double backs with carriers for ½-plate, canvas bag, and Asford's patent tripod. Price £4 10s. W. Berry, 11 Denison Street, Rusholme.

Lancaster's ¼ & ½-plate tripod, complete, good as new, half-price. G.C., 21 Lyme Street, C.-on-M.

Wanted Double Condenser, 5 or 7 inch, perfect. State price to G.C., 21 Lyme Street, C.-on-M.

One Pair Grubbs "C" Stereo Lenses, £2. New condition and perfect in definition. Can be seen in town by appointment.—Rex, 5 York Terrace, Hale Road, Bowdon.

All *business* communications to be addressed to the Hon. Sec., Mr. F. W. PARROTT, 53 Chapel Street, Salford.

Letters to the Editor to be addressed to Mr. WM. STANLEY, 21 Howard Street, Eccles New Road, Salford.

THE PHOTOGRAPHIC RECORD

THE ORGAN OF THE
MANCHESTER AMATEUR PHOTOGRAPHIC SOCIETY.

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CONTENTS

	Page
General Notes	81
History of a Lantern Slide ...	83
Camera Extension for Copying Purposes	88
Photophane	89
Rambles—Agecroft Hall, Moreton Hall, and Dovedale	95
On Gelatine Sensitive Films ...	90
Metabisulphite Developer	99
Manchester Amateur Photo. Socy. Monthly Meetings... ...	100
Letters to the Editor	101
Question Box	103
Sale and Exchange...	104

General Notes.

A new Editor having been appointed, correspondents are requested to send their communications to 46 King Street West, Manchester.

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We have pleasure in calling attention to "A History of Photography," by Mr. W. Jerome Harrison, F.G.S., recently published. Apart from its intrinsic worth, the book possesses a special interest to the members of the Manchester Amateur Photographic Society, inasmuch as it refers to its esteemed President, the Rev. H. J. Palmer, M.A., as one of the pioneers in modern photography. Recording his efforts, years ago, he is described as "an amateur of the first rank," and it is very evident that he fills a high place in the estimation of the author.

In a chapter on the "Introduction of Gelatino-bromide Emulsion as an Article of Commerce," our President is credited with having been one of the earliest to perceive the capabilities of the new material. Kennett, the inventor, was almost driven to his wit's end by the crass perversion of the photographers of that day They could not believe that it was possible for dry plates to be more rapid than the collodion wet plates which they were accustomed to manipulate. The emulsion was tried, after a fashion, and condemned as subject to fog, and only capable of producing thin images. Although the instructions distinctly asserted that the plates were of "unprecedented rapidity," which necessitated a short exposure, the users would over-expose beyond all reason, and then reject the method as worthless. In addition to this, the dark rooms used fifteen years ago were not sufficiently light-proof and contributed to the failures. Poor Kennett complained bitterly and could make no headway. The value of intelligent amateurs who had schooled themselves to follow directions with exactitude, and were prepared for further progress, now asserted itself. The author records that Mr. Palmer wrote to the *British Journal of Photography* of that time affirming that the plates "as regards exposure, are, with good light, really instantaneous. Nothing can surpass the cloud, wave and street views taken with this preparation." But it was all in vain, nothing could remove the thick film which clouded the eyes of the fraternity, and Kennett's labours were a commercial failure.

Referring to a later period, when gelatino-bromide paper was suggested for negatives, Mr. Harrison again introduces our President as one of the first to perceive the possibilities of the new advance, and remarks that Mr. Palmer and others "cut the paper to fit their dark-slides" and "used it for work in the field."

The book gives a consecutive history of the labors of the "fathers of photography," and the various processes which have been employed in the brief half-century of its existence. In its compilation 170 different authors have been consulted and a *resumé* of their work given. The matter is given in terse style, pleasant to read, and is far removed from the dry-as-dust effusions which have been written on the same subject.

◆

Elsewhere we print a letter received from our respected co-worker, the Rev. H. V. Macdona, M.A. His suggestion of a photographic exhibition is worthy of careful consideration, and ought to be kept in front during the bright weather. The task he places before us may appear difficult at first sight, but it comes well within the range of possibilities, and supposing the matter was taken up with general enthusiasm, a successful result might be predicted with confidence. The late soiree at the Manchester Athenæum was an example of what we could produce for a single evening's entertainment. The scheme requires ventilating, and it would be well, now that the ball is set rolling, if those interested would give it another push to keep it moving. We shall be glad to receive other communications on the subject.

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Mr. J. W. Wade, one of our vice-presidents, has received the "Amateur Photographer" Silver Medal for the best series of six quarter-plate pictures at the Gloucester Society's Exhibition. We heartily congratulate him.

History of a Lantern Slide.

By J. W. Wade.

Read before the Society, March 13th, 1888.

ABOUT a week ago our worthy Secretary called upon me with a request that I should give, at our next meeting, a slight sketch of my method of making lantern slides. I was on the point of declining (for I don't know that my method differs materially from that in use amongst yourselves) when I remembered that some of our new members have asked me several very simple questions about this subject—questions showing clearly that they required some teaching before their productions pass the Lantern Selection Committee next winter—therefore I acceded to his request, and intend this evening to relate the brief history of a lantern transparency from the time when the prepared plate makes its appearance in the dark room, to the exhibition of it in the optical lantern.

To make a really good lantern slide requires the highest technical skill, and if it is a good photo, there is no better mode of exhibiting it. Many a good print on paper might be passed over without calling forth a remark, whereas, if printed on glass and thrown upon the screen it enhances the beauty of the picture and would elicit expressions of the warmest admiration; although this method of exhibiting a photograph is run rather close by a transparency in the stereoscope, but there are not two opinions as to which is the most popular. They are both fascinating branches of our art and I shall hail with delight some practical mode of combining the two. Many have been devised but none have yet come to be of any practical service.

That we should have a good negative from which to make our transparency is an indispensable condition, and we start with that presumption; it may be $\frac{1}{8}$ plate, $\frac{1}{4}$ plate, $\frac{1}{2}$ plate, 10 x 8, or any other dimension. With the two first-named sizes, the transparency may be printed by contact in this way:—the negative having been examined and spotted clear of pinholes and other defects, is placed film upwards in a printing frame and a soft brush passed over the film; now, in a non-actinic light, place a prepared plate, also brushed, in contact with the negative, having before-hand fixed upon that portion most suitable for artistic composition; back it with black paper; close the frame and expose. The most convenient light by which to print is that of the gas flame, the frame being placed on a shelf or bracket on the wall about two or three feet away from the light. In this way we have a fixed distance and a standard light.

I can give no idea as to the exposure required, it varies so much with the individual methods of working and with the density and colour of the negative. It is a very good test when working with a new and untried batch of plates, to prepare for exposing as I have already explained, but to cover the negative with the exception of about half an inch with a piece of cardboard, expose for 10 seconds, uncover another half inch and give another 10 seconds, and so on for six exposures. You have now a plate with 10, 20, 30, 40, 50 and 60 seconds exposure, which, when developed, will obviously demonstrate which portion has received the correct exposure. If the subject is too large for contact printing it will be necessary to reduce it to the universal size, namely, about 2⅞ ins., the dimensions of the plate being 3¼ x 3¼.

The reduction is made in the following manner :—We have a board about five feet long, one end resting on the meeting rail of the window, so that by taking a sight along the top it clears all chimney pots, trees, &c. At the end of this board we have a frame to hold the negative. Clamped on the board, in the required position is a long focus camera, fitted with a rectilinear or portrait lens. I use a half-plate portrait lens well stopped down. I believe something of this kind was described a few months ago by Mr. Wilson, but there is one important addition I should like to suggest, that is a light-tight covering between the negative and the lens. It is imperative that no light whatever should pass through the lens except that which has passed through the negative. If I remember aright, Mr. Wilson in his very able paper remarked that a little fogging was an improvement to a wet-plate ; it toned down that harsh contrast which is often seen in that class of work. With gelatine, however, there must be no intentional fogging, for a careless worker will find quite enough fog on his plate without placing it there intentionally. The clear edges of the negative must also be protected so that no light passes through them. It has been asserted that it is impossible to obtain clear high lights with gelatine. I think it depends entirely with the worker, whether his plates are fogged or not.

Having fixed our simple apparatus to a window upon which the sun does not shine ; dusted our negative ; placed it in the frame, film towards the lens ; focussed carefully by the aid of a magnifier, and placed a prepared plate in the dark slide, we are ready to expose. As to the duration of the exposure I can only repeat what I said with regard to contact printing, and to use the same test, using the shutter of the dark slide instead of the cardboard. Do not attempt this class of work on a dull day, for a brilliant transparency cannot be made in a poor light.

And now, as to the kind of plates we are to use for making our lantern slide. I used to think that for the purpose nothing was better than the collodion albumen plates, and even now I often look back longingly to the days when I worked them. But if we try to work them in the same room with gelatine our troubles begin.

Collodion emulsions I have not used for several years, although great improvements have been made lately in this medium for receiving the image.

Some very fine work is done on wet-plates. but I do not think it will ever be a favourite process with amateurs.

I cannot speak too highly of Chapman's gelatine and albumen plates. They are capable of giving a good tone, transparent shadows, delicate half-tones, and they are very free from technical blemishes, which I cannot say of many other makes. I have used these plates for many years, and have invariably been well satisfied with them. The transparency of the shadows is due I think to the extreme fineness with which the acted-upon silver is divided.

The statuary slides, which I showed at our last soiree, were done on Fry's plates, which, in my hands, give a cold black tone suitable for such subjects, which was intensified by the warm tone of the curtain.

Having now decided upon the kind of plates to be used, and I think I have the majority with me when I say that gelatine is the most suitable for the amateur, and having exposed it, we proceed to the development, for this exposed plate must be developed almost in the same manner as a negative. The beginner will, no doubt, for simplicity's sake, use the ready mixed ferrous-oxalate developer, and for general work nothing is better, especially if he has two or three bottles differing in quantity of bromide. A pint bottle of this solution will develop about three dozen plates; then it begins to crystallize and had better be thrown away. The saturated solutions of proto-sulphate of iron and oxalate of potash respectively 1 to 4 may be used, but it gives a cold tone, especially if it is restrained with much bromide. A great variety of tones may be produced by the pyro developer, my favourite being sulpho-pyrogallic. This developer does not stain the plate. The development may be hastened, and I think it also adds to the brilliancy of the pictures, if the solution is poured back into the developing cup two or three times allowing the plate to drain for a few seconds. If more density is required it may be obtained by adding to a well restrained solution, at intervals of half a minute, two drops of the ammonia solution. Sometimes we have to make a transparency from a negative troubled with halation, such as a church interior or bright light coming through foliage. In this case we have a patch which refuses to develop as quickly as the other portion, but is often amendable by treatment. Tilt the dish until the bare portion is free from the developer; now, with a soft camel's hair brush charged with ammonia solution, work on that portion until it is brought up to the required density, letting the developer flow over now and again. Rubbing gently with the warm finger tip will also bring out detail.

To know when the plate is fully developed can only be learnt by experience, but one useful guide I may mention, namely, that there should be little, if any, portion of the plate as white as that covered by the rebate of the printing frame. The plate has now to be washed and fixed in hypo-sulphite of soda 1 to 4, and again well washed. The plate should be left in the hypo about five minutes after the unconverted silver has disappeared.

Our transparency must now be examined against a piece of white paper or opal glass. We must observe that the sky is free from scratches, air bubbles, hairs imbedded in the film, &c., and if unfortunately there is anything of this kind, it must be thrown away, and we must start again. If the plate has been under-exposed, the result will be that we cannot tell whether the picture has been taken during a summer's day or during winter's snow. This also is not remediable and must disappear.

I may say that during the selection of slides for our last soiree, I noticed that these two faults were the most common. Our slide may be free from these defects, but may perhaps lack brilliancy. Unless flat from over-exposure, it may be treated to a bath of bi-chloride of mercury, washed and drained, and immersed in a 10 per cent. solution of sulphite of soda. This at once brightens the picture and imparts a warmer tone. Should it, however, require more intensity, we should use ammonia instead of sulphite. If the plate is too dense through over development, it can easily be reduced by a solution of

Ferricyanide of potassium (10 per cent.)	1 drachm.
Fixing solution...	1 ,,
Water	3 ozs.

We must keep in mind when using these intensifiers and reducers, that the resulting tone must always be in keeping with the subject. Sometimes, but not very often, we wish to produce a moonlight effect, then the image must be toned a blue colour. To do this we must make up two solutions :—

Ferric chloride	7 grains.
Water	2 ozs.

Ferricyanide of potassium	17 grains.
Water	2 ozs.

To be used in equal quantities.

But they will not keep when mixed. The plate being immersed in this, the resulting picture will be a blue colour. But some portion may be required to be of a yellow tone. This we can get by applying a dilute solution of sodic-hydrate, or if a green, we treat that portion that has gone through the blue and yellow tones, with the ferric ferricyanide, indeed, by combining different salts we can obtain a great variety of tones.

Our lantern slide has now to be dried and varnished in the usual way, taking great care to keep it entirely free from dust. Place it on the re-touching desk in a good light, and with a fine brush charged with colour to match that of the transparency, work up all the transparent defects, &c. Should the picture require clouds to improve it, it is very easy to print these on a separate plate and use as a cover glass. This plate is treated in the same manner as the slide already described, but must be developed with ferrous oxalate, and perhaps have a slight dose of the ferric ferricyanide bath; for this reason, a cold or blue tone gives the idea of distance, and the reverse with warm or brown tones.

Other objects besides clouds can be printed on the cover glass. Figures, trees, rocks, boats, &c., might be taken from other negatives.

I have been asked by several members if the sunset at Bradda Head, which I showed at our last meeting, was a composition picture, so I take this opportunity of saying that it is from one negative, untouched.

I ought to have mentioned, when on the subject of tone, that the exposure and development may regulate the colour of the image to a considerable extent; a long exposure and a weak developer giving a warm tone, and a short exposure, &c., a cold tone. With the former, however, there is the danger of giving the transparency a flat appearance, and with the latter, what is known as a soot and whitewash image, therefore extreme care and judgment must be exercised in obtaining warm or cold tones in this way.

We have now got a perfect lantern slide. It only remains to place a mask between the glasses, and bind them with paper slips, sold for the purpose; but even this requires attention; we must not hand it over to any boy to do. Perhaps 50 per cent. of the lantern slides will pass criticism mounted with the regulation cushion shaped mask, the other 50 must have masks of a shape to suit the subject. Perhaps some of our lanternists will be threatening me with dire consequences for advising this; they would rather have the edges register exactly, but I would ask them why they do not have their cameras to take square pictures only?

Just a word as to the testing of lantern slides. Our historical slide is now ready for exhibiting in the lantern, but a few friends happen to drop in just as we have finished it. The first one puts it flat down on a piece of white paper, and without reference to to the subject, says it is a splendid slide, so clear in the high lights. Another holds it between the sky and himself, and he gives forth that it is wanting in half tones; another puts a piece of tissue paper behind it and holds it near the gas flame. His opinion is not worth any more than the other two, for although the grain of the tissue paper destroys the delicate detail of the picture, it makes a harsh and under-exposed slide look better than it really is. It is now passed on to a fourth, who places it at the proper angle on a piece of white paper, allowing the light to be reflected from the paper through the slide. This is a much better method than the other three, but is yet imperfect. The only way, is to light up the lantern and project the picture on the screen; we can now with certainty pronounce judgment upon it.

In conclusion, permit me to say that these notes have been thrown together very hurriedly, being the result of a few moments snatched now and again during the past week, but vague and disjointed as they are, I trust that some beginners who have hitherto been deterred from making lantern slides by a mistaken idea of the difficulties, will be encouraged by what I have said, to commence at once to utilize this method of printing their photographs.

Camera Extension for Copying Purposes.

By GEO. H. B. WHEELER.

Read before the Society, June 12th, 1888.

SOMETIMES we find that the camera, when extended to the fullest extent, is too short to enable us to obtain an enlarged or even a full size negative for copying purposes. By the simple arrangement or addition of a cigar box in front of the camera, this desirable end may be easily attained.

In selecting a box for this purpose, obtain one with square ends or one that is near the same measurement in depth as it is in width, so that the rays of light entering in at one end, may not be cut off in passing through, by narrow sides.

A loose front should be made to fit the camera, to take the place of the ordinary front. It may be made from the lid or end of another cigar box. The ends of the box should now be perforated, one end to take the flange of the lens and the other to be attached to the new front. The lid must be left loose for the present, as the interior will require to be coated with black after the cutting out is finished. In making the circle, lay the flange against one end, in the centre, and with a pencil run round the edge marking the size. A fret saw, or at a pinch a sharp penknife will complete the opening. The perforation at the other end, and in the loose front, should be made as large as possible and the same dimensions as each other. They may be fastened together by glue or pins. The inside should be painted a dead black to discourage all reflection.

A suitable preparation for this purpose is easily made by mixing lamp black or any dry black color—even soot will do—with gum water or flour paste. If made rather thick, it is all the better, as it fills in the joints or crevices with substance and stops the intruding light from entering. The lid should now be firmly fastened down. Ordinary nails or sprigs are liable to split the wood, as it is thin and very brittle, but common pins cut in two with a chisel or pair of scissors will effectually accomplish the object sought. The joints where the lid has been attached, and any other weak places about the extension should now be stuffed with the same black paste that has been used for the inside. All that remains to be done, is to cut a few strips of red or a dark colored paper, and fasten them with paste or thin glue neatly over the edges. This will thoroughly exclude the light and give the box a presentable appearance.

There is one weakness in the apparatus we have suggested. Being a projection from the camera, with an attachment to a part that is often fragile in its construction, there is a liability to create vibration, which is fatal to good copying. To overcome this tendency, some support must be placed under, or against the box when in actual use, so that it may be kept perfectly steady. With this precaution it will be found a very useful addition to the camera.

The pattern which I now submit for your inspection and comments, has been constructed in the manner described for my own use, and answers its purpose well.

Photophane.—Messrs. Iliffe & Son, of Coventry, have introduced a new system of mechanical photographic printing under this name. A specimen of what it is capable of producing was laid before the members, at one of the monthly meetings. The prints are produced in ink, and therefore should be absolutely permanent, but their special characteristic is that they are beautifully soft and graded in tone, closely resembling silver prints. Several of our members affirmed that the specimen submitted was really a silver print, and only after a close scrutiny admitted their error. The process of working is a secret. The same general system as collotype is adopted, a printing surface being prepared by printing direct from a negative upon a sensitive surface, which is afterwards developed and prepared for the machine, and the prints produced directly from it. The difference between collotype and photophane consists in various details of working, and the material of which the sensitive printing surface is made. The results obtained are of a finer and more permanent character than collotype, and the inventors undertake to produce prints uniform in character and color, whatever the number.

On Gelatine Sensitive Films.

By Rev. H. J. Palmer, M.A.

Read before the Society, June 12th, 1888.

AMONG the many attempts in the direction of experimental photography, which it has been my good fortune to be in a position to make, in my past association with the early labours of those who successfully endeavoured to perfect and bring to the fore front of photographic processes, the now universal gelatino-bromide, I think I may, without egotism, pride myself a little upon that which I venture to bring before you this evening. Not that I was actuated by any very strong principle of laudable photographic philanthropy, in the endeavour to find a workable substitute for glass, upon which to spread a gelatino-bromide emulsion; I fear that a natural selfishness lay lurking at the bottom of the motive which set me to work in patience and persistence, to conquer the difficulties which I met with in my quest. For many years, I had become addicted to the annual association of the delights of the practice of photography in the field, with mountaineering among the Alps of Switzerland. And in this agreeable combination, there were one or two discomforts and dangers from which I anxiously sought to be free; and in the alleviation of which, I thought I saw a boon which would be welcome to all peripatetic photographers. In the first place there was the inevitable douanier, or custom house officer, to be faced at every frontier town, with his laudable and eager desire to pry into the traveller's every box and package in quest of dynamite or tobacco. There are no dark rooms at the disposal of these gentlemen, in which to open the travellers' plate boxes; and the more manifestly anxious a person shows himself to be, that a certain package should not be inspected; the more eager and determined will the douanier naturally become, to pry closely into the innermost recesses of that package. To prevent the disaster of the opening of a box of sensitive plates, I had been accustomed to carry with me a packet containing a few developed plates and this I would present with a benignly seductive smile to the officer; but, as a rule, my friend was blind to my blandishments, and selected another of my plate parcels, on which to satisfy his fatal inquisitiveness.

Then I tried the plan of having my plate boxes constructed with sheets of non actinic glass at the top and bottom, so that the douaniers might be able to see for themselves, by holding the box up to the light, that it contained nothing contraband. But official zeal in combination with crass stupidity only saw in this a new dodge for smuggling with impunity, and the desire to inspect the inside and contents of my ingeniously devised plate box was only intensified.

How much better to be for ever free from these temper trying dangers and carry sensitive films by the gross in one's pocket, at all events, through the Custom houses; and then, too, I remember a memorable walk along the Val d' Anniviers to Zinal, when, being out of health, a sturdy porter was carrying a box of 9 x 7 plates, and also my camera. The wretched man had the two parcels, the box and the camera, slung over his shoulder; his rope was rotten; and I was unpleasantly roused from agreeable meditation, as I trudged along, by a crash of broken glass behind me. There lay my plate box, in halves, at the bottom of a chasm in the rock, there was my only available stock of dry plates, with their films still as white as the snows of the Alps around, which were to have been delineated upon their surface; and there, too, lay my beloved camera, much shattered, and minus its focussing glass. Nor did the story of my misfortune end at this point; for my clever friend managed to drop the camera once again, before I dismissed him, with anathemas both loud and deep, at Zinal. A similar disaster befell me on another occasion, and from a similar cause, on the ascent to the Gorner Grat, at Zermatt. And here, apropos, of the focussing glass misfortune, I may insert, by way of parenthesis, a eulogy of an application of the process I am about to describe, to the preparation of unbreakable focussing films, which may be made by adding filtered milk to gelatine, 40 grains to the ounce. So useful have I found these portable films in lieu of focussing glass, when upon a mountaineering excursion, that I have taken care to have a stock of them with me, when I have been photographing among the mountains. I read a paper on the subject before our Liverpool Society, and thereby became involved in an amusing contest of difference of opinion with a printer, in which I was ignominiously defeated. I merely remarked in my narration of the Gorner Grat disaster, that the loss of my focussing glass occurred to me when I was in a position, 10,000 feet above the nearest glazier, the word being of intention spelt with a z. My printer, however, was convinced that the letter c would present the word to my readers as I intended the idea to reach their minds, since the incident took place in the very heart of the Alps, with glaciers on every side. In correcting the proof, I very emphatically replaced the z, but it was of no use. My friend, the printer, I suppose, felt that my orthography was hopelessly at fault; he sternly refused to allow me to compromise my literary reputation thus, and the word appeared in my printed paper in strict accord with the printer's sense of its fitness and correctness.

But to return to my subject. The simple process I am now going to describe, was worked out by me to a perfection which was at all events satisfactory to myself, and, I may add, to those who saw the results, in the year 1878. I described it in a demonstration before the Liverpool Association, and, a few months afterwards, in a communication read in Paris at a meeting of the Photographic Society of France. It was thus the first process for the production of portable gelatino-bromide films, which was intended to help those who wished it, to be free from the miseries and inconveniences which befall the peripatetic photographer, from the bulk, and weight, and breakability of his glass plates.

My first attempts to obtain sensitive films apart from glass, were made with the gelatine sheets of commerce; and to sensitize these, it was necessary of course, not only to render them perfectly flat, but to keep them so, until the applied emulsion was set. This was a difficulty which I was unable completely to overcome. I, therefore, set myself to work to discover the ingredient used by gelatine sheet makers, to enable them to separate their sheets when dry from the glass or metal slabs upon which they had been formed.

French chalk, or powdered talc, at once suggested itself. But this turned out to be useless for the purpose in question, because, where it is used as a substratum to the gelatine, the sheet, as soon as desiccation has taken place, at once separates from the chalked surface; and, for my purpose, it was necessary to retain it there, until it had been covered with emulsion, and until this emulsion had set. There was clearly some other ingredient employed in the manufacture of the coloured gelatine sheets of commerce, which made its presence manifest by its colour, and taste and smell. My appeals to gelatine makers were of no avail; for I was seeking to unravel one of the mysteries of the Eleusis of trade. At last, however, after many trials with numerous substances, I discovered that I should find all I wanted as a catalytic, in ordinary ox-gall. This can be obtained in three forms; from the butcher, in the gall-bladder of a newly slaughtered ox; from the chemist, in the shape of a purified pasty preparation, used in medicine; and from the artist's colourman, in the condition of a clear, and colourless alcoholic solution with a very vile odour. Each of these three kinds will be effective for stripping the gelatine, either when used with a gelatino-bromide emulsion, or when employed in melted gelatine. I have found, too, that by merely using either of these as a substratum, it is possible to separate dried gelatine from the surface from which it has been poured.

Experiment showed me that the best form of ox-gall for my purpose, is that obtained from the butcher. The fresh bladder should be hung up for a day or two in a cool place, and then, by making an incision in the upper portion of the bladder, enough of the clear liquid may be obtained, without disturbing the thick, and highly coloured residuum. I have ascertained that no injury is done, either to the sensitiveness or the permanence of an emulsion, by combining with it a proportion of ox-gall of one in eight. But then, this is far too extravagant in the quantity of emulsion used, unless the amount per ounce of gelatine, be very considerably increased. I think it is better to proceed as we are about to do this evening, and mix in the first place 2 ounces of ox-gall with eight of water. In this are soaked for an hour or two an ounce and a half of gelatine, and, when the latter has become thoroughly softened, the temperature is gradually raised until the gelatine is liquefied. The mixture is now filtered, and placed in a wide mouthed vessel, surrounded by warm water, to prevent the gelatine from setting. There is nothing better for this purpose, than almost any form of infants' food-warmer.

The desiderata now are, a sheet of glass accurately levelled, and the well-cleaned plates to be coated, preferably a size larger than that of the films desired. If quarter plates are used, they should be placed side by side upon the levelled glass, and upon each in quick succession, a table spoonful of the warm gelatine and ox-gall is poured. Bubbles are removed with the point of a pen-knife, or the tip of a finger, and the sheets are dried in a cool place, and in a current of air. It is important that the temperature be not too high, otherwise the dried films are apt to cockle and split.

Still adhering to their glass supports, the films are now coated with emulsion, poured upon them in a pool, in the centre, and distributed over the surface, with a glass rod. It will be found necessary to humour the emulsion a good deal, by tilting the plate and by guiding the emulsion and spreading it evenly with the rod.

Some patience is required here, but no difficulty will be found in producing an even film; and when this has been done the plate is replaced upon the level glass sheet, until the emulsion has set. The films are then dried, and may readily be removed from the glass by the insertion of a knife point under the corners.

The desiccation of these films, is by no means an easy matter for amateurs without a drying cupboard. I have given up the use of an apparatus of this kind, because my other avocations leave me little or no leisure for the manufacture of emulsions, and plates, and films. But I add here a brief description of the drying cupboard which I devised many years ago, at the very outset of my experiments in gelatino- bromide, and I never met with a better. The apparatus consisted of a cupboard containing four levelled shelves, each of which would hold six 9 x 7 plates or two dozen quarter plates, and when the doors were closed, it was perfectly light-tight. At alternate ends of the shelves, an aperture was left to allow the current of warm air to pass over the plates. The air current was heated by means of an iron cone upon a circular plate of iron. On the rim there was an aperture which could be made large or small at pleasure, and at the apex of the cone, there was an opening admitting the air current into the space above the bottom shelf of the cupboard. Below the cone was a lamp which finally gave place to a gas jet, and this when lighted, sent a constant stream of warm air over the films, without contamination by the products of combustion, and desiccation was thus conveniently effected. For exposure of the now sensitized film, it is merely necessary to place it in the slide, backed up and supported by an ordinary glass-plate. At one time I secured the perfect flatness of the film, by using upon the support, gelatine to which sugar or treacle had been added. This gave an amount of tackiness to the support, just sufficient to keep the sensitive film flat in the slide. I found, however, that this was really unnecessary.

Development is carried out as usual, in a dish ; and after fixing and washing, the film is left to dry spontaneously upon any smooth surface, all bubbles being removed by a camel's hair brush.

In conclusion, permit me to allege one reason which has caused me to venture to resuscitate this very easy and successful process to-night. It seems to me that we amateurs are having now-a-days too good a time of it, and need stirring up to exertion in experimental photography.

Our advantages are so many and so palpable, compared with those enjoyed by us who began an acquaintance with our delightful art very nearly forty years ago.

And so it is that we are only too apt to fold our hands in happy contentedness with our good fortune, and attempt nothing in the direction of experimental effort

We buy our apparatus cheaply, and with all those marvellously convenient improvements, which have been produced by the inventive genius and cunning skill of modern manufacturers. We purchase our dry plates ready to our hands. Our developers are mixed for us in the shops. Our printing papers are ready sensitized when we buy them. Developing, printing, toning, mounting, are difficulties which we need not face at all unless we be so minded. And thus it follows, that we amateurs are, although not less enthusiastic in our love for photography, nevertheless doing but little in the direction of experimental work.

There are now few workers, who are seeking to be pioneers to " fresh photographic fields and pastures new." And so it is that I have ventured to think that this account of an old success which was the reward of a good deal of labour, and the result of many failures, may act as a healthful stimulus to myself and others.

The Detroit Free Press says :—" Amateur Photographers are not much inclined to conviviality, for their main dependence is upon dry plates." The foregoing will not apply to our ramble to Great Budworth on the 20th June, when *Mrs. Burgess* officiated so brilliantly.

Rambles.

AGECROFT HALL, KERSAL CELL, & KERSAL HALL.

The first ramble of the season took place on Saturday, May 12th, under the leadership of the Hon. Secretary. The Tram Office, Deansgate, was announced as the meeting place. and notice had been given to the tram company that additional cars would be required if the weather was at all favourable. The day was fine, with brilliant sunshine, and from soon after one until near two o'clock the tops of the Higher Broughton cars were loaded with photographers, camera cases and tripod stands. Leaving the tramways at the old toll-bar, Kersal Moor, a short walk past Kersal Church and over the moor, now a public park, brought the party into the valley of the Irwell and close to Kersal Hall and Cell. Here the numbers were augmented by members who had come by way of Pendleton or driven from their residences in the suburbs.

Mr. Barber, of Kersal Cell, having kindly granted permission, cameras were unpacked, tripods erected, lenses fixed, and the field in front of the Cell was soon covered with the party, spread out like a fan, each one trying to secure a good point of view. Kersal Cell was for many years the seat of the Byrom family, and stands close by the side of the river Irwell, facing due south. A large cedar, a genuine cedar from Lebanon, stands at the east corner uplifting its gaunt arms against the sky, and adds to the picturesque appearance of the view. On counting, it was found that there were 71 cameras in use and over 80 members and friends present. Considerable interest was manifested in the movements of one of the members who was suspected of using a detective camera, with the intention of taking instantaneous photographs of the photographers at work. The suspicion proved to be correct, and the results will doubtless be made into lantern slides, and when the lantern season comes round again, the exhibition on the screen will be very interesting, especially to those who were taken unawares.

Kersal Hall, with its quaint leaded windows and trim garden, was next photographed, by the kind permission of Mr. Green.

Agecroft Bridge, a stone structure over the Irwell, comprising three arches, was the next point of interest; after which the party went forward over the river and on to Agecroft Hall.

Agecroft Hall stands on a low tongue of land which stretches down from Pendlebury into the flat valley of the Irwell, about three miles N.W. from Manchester. The building is in the half-timbered style and forms a complete quadrangle, measuring externally about one hundred feet square on plan. The west side of the building is close to the edge of a steep cliff, and probably the three remaining sides have originally been protected by a moat.

It is said to date from the time of Henry VII., and has been in the possession of the Dauntesey family since the year 1561. The Hall is most carefully preserved by the present owner and occupier, Robert Dauntesey, Esq., who kindly threw open his park to the party and granted permission to photograph. On the east side there are several richly carved oriel windows, and the charming effect of the half-timbered work, the "grey" or stone slates, and the chimneys partly covered with ivy, combine to make the general appearance of Agecroft Hall exceedingly picturesque, especially when seen from across the small piece of ornamental water at the S.E. corner of the grounds. After taking views of the exterior and the courtyard, the party dispersed, some returning to town by rail from Clifton, others by tram from Higher Broughton and from Pendleton, &c. The day was beautifully fine throughout, and the large number (over 80) present indicates the popularity of these short photographic rambles near home.

F. W. PARROTT.

MORETON OLD HALL, CHESHIRE.

The second ramble of the season took place on May 16th, under the very able leadership of our friend and veteran amateur, Mr. H. Smith.

Leaving London Road Station at 10-32 for Mow-Cop Station, Moreton Old Hall was reached soon after 12 o'clock. Moreton is a "half-timbered" Manor house, bearing date of the middle of the sixteenth century. It is situated near to the main road between Newcastle-under-Lyme and Congleton, and is encompassed by a moat on four sides, enclosing about an acre of land. Within the moated area a small mound may be seen, and just outside, another of larger dimensions, to which, it is said, there is an underground passage from the house. The entrance to the house is on the south side, across a stone-built bridge which spans the moat, and the eastern parapet wall of which bears a carving of the Moreton coat of arms and crest, given by Ormerod as "Argent a greyhound statant, sable" and the crest, "A greyhound's head cooped argent, collared with a twisted wreath, vert." The house and moat are supplied with water from a little stream near the bridge. The entrance leads to a courtyard, round which the buildings are arranged as a quadrangle, except on the west side, where they are disconnected by a space of about 10 yards. On the north side, opposite the entrance, is the great hall with its screens and kitchens. The buttery and servants' apartments occupy the west. The interior of the hall has an open-timbered roof, with a fire-place on the north side, and a large bay window projecting into the courtyard on the south side. East of the hall is a staircase leading to the chambers above, on either side of which there is a parlour, one looking north and the other being lighted from the east and west, and having a large bay window also projecting into the court like that of the dining hall. On the east side of the quadrangle are the chapel and several other rooms with windows over the whole side. The southern range of building is the only one of three storeys in height. The upper storey is occupied by one long gallery running the whole length of the side. It is a handsome apartment, with open timbered roof and wainscoted walls. At the west end there is an ornamental figure in the gable, and a representation of the Wheel of Fortune round which is written "*Quimodo scandi corruit statim*," and underneath, "The Wheel of Fortune, whose rule is ignorance." At the other end of the room is another figure with a globe, and the inscription, "The sphere of destiny, whose rule is knowledge." Out of the gallery, on the south side, is a small room over the main entrance porch, with a very fine ornamental chimney-piece bearing a coat of arms. This block seems to have been that apportioned to guests, and may be regarded as the state apartments.

In the house sundry pieces of the original furniture still remain, such as the dining-hall table, &c., &c. On the whole, there can scarcely be a better or more complete example of a half-timbered house of the middle of the sixteenth century. In the interior, the oak floors, the wainscoted walls pierced by quaint window openings, richly moulded ceilings, and curiously wrought chimney-pieces, and on the exterior the main substantial framing, with its frequent overhanging features supported on carved corbels, springing from twisted and carved uprights, its many gables, bays and oriels, broadways, and fretted lights, all go to form as picturesque a dwelling as could well be conceived, and on which the artistic eye can feast with many delights. The pride of the place, to those who built it, seems to have centred in the bay-windows of the dining hall and parlour. They are specially marked by the following inscriptions: "GOD IS AL IN AL THINGS;" "THIS WINDOV WHIRE MADE BY WILLIAM MORETON IN THE YEARE OF OUR LORDE MDLIX." "RICHARDE DALE CARPEDER . MADE THIES WINDOVS BY THE grac OF . GOD."

In a very few minutes after our arrival, cameras might be seen fixed here and there and almost everywhere. The court yard, and the hall with moat and bridge seemed very favourite points of sight, and, although the light was dull and heavy, some very good results were obtained. Our leader's stero view of the long gallery or ball-room being exceptionally good.

One member had the misfortune to break his focussing glass before exposing a plate, and another achieved the feat of putting the moat into the ball-room.

Tea was provided by Mrs. Dale in the large dining hall, after which a few more plates were exposed, and then the homeward journey commenced.

Twenty-nine members and friends joined in the ramble, and about 150 plates were exposed.

J. DAVENPORT.

DOVEDALE.

After giving a short account of our visit to Dovedale at the last meeting of the Society, I was surprised when our energetic Editor asked and insisted on copy for the *Record*. This he did in such a manner that I felt it was no use arguing the matter, but as literary work is not much in my line, he may repent of his rashness. On Saturday, May 8th, the bulk of the party left London Road Station about a quarter to eight in the morning, others joining at various stations on the line. We passed Prestbury, with a glimpse of its Old Church; Macclesfield, known to many as "Treacle Town;" Rudyard Lake and Alton, arriving at Ashbourne at eleven o'clock. We there found that we mustered 17 members and friends and eleven cameras. Leaving the station we passed the church; a fine building in excellent condition. It contains many beautiful marble monuments, and is well worth a visit. The exterior lends itself for many good pictures, from various points of view, and several parts of the interior are worthy of attention. Going down the principal street, remarkable for its Grammar School and Alms Houses, as well as its general quaintness, we were struck by the many facilities in the town for quenching the thirst, but we found out afterwards that the district is mainly limestone, which causes the roads at times to be very dusty, and we came to the conclusion that our forefathers were justified in providing their sons with plenty of choice to perform the wet process. The majority of the party had lunch before leaving Ashbourne. In a short time we saw, felt, and tasted abundance of dust. It was dreadful; one side of the lanes had the appearance of having been dredged with flour, the other side, from which the wind was blowing, being beautifully green. The country round about partook of that refreshing color which our clever chemists cannot produce for us.

Arriving at the top of the hill, we passed the back of the Peveril of the Peak Hotel, treading upon a splendid piece of turf leading to the entrance of the Dale. Thorp Cloud rose on our right, and Sharplow Point, with plenty of hard workers climbing to the top, being on our left. We soon entered the

Dale, and found that our troubles had begun. The first picture, which is a view of the river, with rocks and trees as background and stepping-stones for foreground, was spoiled by a canvas screen erected by a party of gipsies, for "three shies a penny" at cocoa nuts. A broken-down cart was anchored in the stream near the stones, and that did not improve the view. Some tried it from various points, but it was no use; we consigned the gipsies to sundry places and passed on. A few hundred yards brought us to a local photographer, who, having a dark hut in the Dale, had kindly placed it at our disposal for changing plates, &c. The further we went, the further we were disappointed, the light being very bad with a slight mist rising at times, and what was equally bad, the Dale proved to be crowded. The "madding crowd" was there without doubt, and many wished to be "took." Of course we had to make the best of it, and when we could obtain anything like a fair light and the absence of moving figures, we thought ourselves lucky. Different river and rock views, as well as landscapes were tried, some few going past the straits. We had thought of going as far as Mill Dale, but the walk to and from would have taken too much time, so we returned to the Peveril Hotel, waiting the conveyance to take us back to Ashbourne. Arriving there, we had just time for tea, and left at seven in the evening. To do justice to Dovedale, we think the head-quarters should be pitched near the Dale itself, at either the Peveril, or the Isaac Walton Hotel. From either of these you can get to the Dale in a few minutes. Walk on to Mill Dale, a small hamlet of, I think, thirteen houses; then on to Beresford Dale. A capital place to put up at, is the Charles Cotton Hotel, at Hartington. The whole embraces a walk of six or seven miles. Ilam on the left and Tissington on the right, are well worth a visit. Anyone fond of fishing, can combine it with photography; this pretty neighbourhood being well known to the disciples of Isaac Walton long before the birth of photography. As my opinion of fishing is the same as Dr. Johnson's, I need say nothing further on that matter. In conclusion, to any who wish to go to Dovedale, either as leaders or as followers in Whit-week, I say with Mr. Punch, DONT!!

C. DAWSON.

Metabisulphite Developer.—It has its advantages and its disadvantages, one of the latter being that it is very slow in producing the image. To correct this, increase the quantity of the energizer, but it should be done gradually, or green fog will be produced. A full exposure should be given, and it is well to bear in mind that the developer, being strongly restrained, will work well although the exposure has been greatly prolonged.

The Manchester Amateur Photographic Society.

Ordinary Monthly Meeting of the Society held Tuesday, April 18th, 1888, at the Athenæum, Mr. S. F. Flower in the chair. The following were elected members:—Messrs. T. Beeston, J. Brown, H. Child, S. H. Crompton, J. H. Huxtable, C. F. Kerr, J. Kerr, S. Leech, H. Littlewood, R. M'Dougall, J. Spurge, jun., W. F. Whalley, and H. G. Williams, jun. Various objects of interest were laid upon the tables for the inspection of members.

A presentation to the Hon. Secretary, Mr. F. W. Parrott, of a beautifully illuminated address and a purse containing twenty-five sovereigns, was made on behalf of the members by the Rev. H. V. Macdona, M.A., vicar of Cheadle Hulme. The reverend gentleman expressed the extreme pleasure he had in undertaking this duty, and gave an excellent address.

Mr. S. D. M'Kellen said he hoped that the testimonial might remind Mr. Parrott in the midst of his heavy duties, that the members appreciated his valuable services.

Mr. Parrott, in accepting the gift, said he had been taken by surprise, never expecting to receive any material recognition of his services. He had certainly spent a considerable amount of time on the Society's affairs, but it had been a labour of love throughout.

Mr. John Bathe gave a lantern exhibition of about 170 slides.

The address presented to the Honorary Secretary was designed and illuminated by Mr. J. S. Watson, a member of the Society.

Ordinary Monthly Meeting, May 8th, 1888, at the Athenæum, the president, the Rev. H. J. Palmer, M.A., in the chair. The following were elected members:—Messrs. P. Bersi, J. B. Bond, T. Bradley, W. J. Chapman, H. Jones, J. E. Lamb, E. Lord, A. Mitchell, J. R. Olliver, C. Partington, and C. Pattison.

A number of queries from the Question Box were read and discussed. Mr. Brooke exhibited a photometer; Mr. J. Jones some instantaneous photographs; and Mr. J. T. Chapman a new drop shutter.

Ordinary Monthly Meeting, June 12th, 1888, held at the Athenæum, the President in the chair. The following gentlemen were elected members:—Messrs. F. Adshead, F. Brooke, John Faulkner, W. H. Faulkner, H. Goldsmith, J. Miller, J. H. Newsome, and W. Turner.

Reports of Rambles to Agecroft Hall, Moreton Hall, Dovedale and Lymm, were given by the respective leaders.

The President read a paper on "the Preparation of Sensitive Films." Mr. Geo. Wheeler read a short paper on a "Simple Extension to the Camera for Copying Purposes," and exhibited an example of the arrangement described. Both the foregoing papers are printed in this issue of the Society's Magazine. At the close, the meeting resolved itself into a Special General Meeting for the purpose of altering Rules 3 and 7.

Letters to the Editor.

A SUGGESTED PHOTOGRAPHIC EXHIBITION.

Dear Mr. Editor,—I have often heard the quotation, indeed it is already crystallized into a political phrase (right or wrong), "when Lancashire speaks, England follows." I venture to take this very flattering quotation as my text for a few suggestions in a long hoped for, and frequently expressed wish to see a Photographic Exhibition inaugurated in Manchester. In a matter of this kind there must be, in the first place, real enthusiasm on the part of all the members of our Society to make it a success. This is a *sine qua non.* The Amateur Photographic Society of Liverpool has made the venture, and the success was phenomenal. The committee of that enterprising body never for a moment dreamt of achieving so magnificent a success, when they first entertained the idea of holding their exhibition. The Mayor opened it; the Bishop's wife distributed the prizes; the public crushed; the press gushed; professionals wondered; amateurs rejoiced; all was a pronounced phenomenal success. Now this is just what we in Manchester should try in the approaching autumn, I will not say to rival, but to *eclipse.* Our Society is second to none in the provinces,—I was going almost to aver in the metropolis itself—our numbers are increasing rapidly every month. We are numerically really ahead of the list of amateur societies. Let us then show the stuff we are made of, and put our "shoulder to the wheel," and while we have the opportunity, redeem it. Let our holiday work this summer be worthy of our Society, and let us all give the utmost pains to the character of that work, and above all to the artistic feeling of it, so as to challenge the keen criticism of the Manchester public at the suggested exhibition in the autumn of the present year. I have always maintained that there is nothing like legitimate competition for bringing out the qualities of the workman, no matter in what province of enterprise that work consists. Very rapid strides have been made of late in the direction of landscape photography and some of the most artistic results realized, but there has not been presented to the public a convenient opportunity of seeing and appreciating these results. Let this be done without further delay, and I do not hesitate to forecast as triumphant a success in artistic work as has ever yet been achieved. Let the matter be taken up with spirit by all the members of our important Society, and let each member feel a strong personal interest in its success, and then, one and all will share the reward in the united effort to prove worthy of ourselves. This can be done and done only by "a strong pull, a long pull, and a pull all together."

H. V. MACDONA.

The Vicarage, Cheadle Hulme,
June, 1888.

RAMBLE TO AGECROFT AND KERSAL.

Sir,—On Saturday, May 12th, I joined the Ramble to Agecroft and Kersal. One of the objects of interest was a brick building painted black and white, with leaded windows, and a neat garden in front; this, we were told, was Kersal Hall. As I can find no mention of Kersal Hall in any of the histories of Lancashire, to which I have access, I shall feel obliged if any of your subscribers can inform me if this is a genuine old hall, and if so, where I can find a history of it. I think that it adds considerably to the interest of a photograph if a short history of the place be written underneath or on the back of the mount. Thanking you in anticipation for your courtesy in inserting this, and with best wishes for the success of the *Record*,

I remain, yours,
Number 150, 1888.

AN URGENT WANT.

Sir,—Would it be possible for our Society to obtain the use of a room, in a central position, for the purpose of developing, enlarging, charging slides, &c.? Very few members have the necessary convenience for enlarging at home. A small room, in a top storey would suffice, and the cost of blocking-out the light, fitting with water, and providing a few large baths would be trifling. It is often necessary, too, for members keeping their cameras in Town, to change plates, charge slides, &c., &c., and I think that our following the lead of other large towns, in thus providing ourselves with a room of this kind, would not only prove a very great convenience, but would swell our list of members. Trusting that this suggestion may be thought worthy of discussion, either by the Society. or by the Council,

I am, Sir, yours truly,
R. O. GILMORE.

78 Cross Street, City.

Question Box.

Hydrokinone Developer.—Will some brother amateur give a formulæ for a good Hydrokinone Developer?

Ans.—The following has been tested with very excellent results. It keeps well, and does not discolour:—

Hydrokinone	15 grs.
Sulphite of Soda	1 oz.
Carbonate of Soda (pure) ...	2 oz.
Carbonate of Potass ...	1 oz.
Bromide of Potass	20 grs.
Water (cold)...	10 oz.

It is made in one solution. Mix the hydrokinone in the water; then add the other ingredients in the order given above. The development proceeds slowly at first, but when the subject becomes discernable, intensity is rapidly gained. A number of plates may be developed with the same solution.

Beach's Developer.—It has been stated that Beach's Developer has a tendency to rot the film of the negative. Is this correct?

Ans.—It has been used by a number of our members, but they have not hitherto observed the failing referred to.

Moonlight exposure.—What exposure should be given to an ordinary Ilford plate in an average moonlight scene?

Ans.—Much depends upon the state of the light and the rapidity of the lens. Obviously, a scene on which the full moon is shining will require less time than one illuminated by the first quarter. The clearness or otherwise of the atmosphere is also a factor which must not be omitted. So variable are the conditions, that three-quarters of an hour has proved sufficient at one time, while an exposure of over two hours at another time only resulted in a faint outline. We recommend the use of a more rapid plate than the one mentioned.

Cracked Negative.—Is there any good method of stripping the film from a cracked negative, and transferring to another piece of glass—the film not broken?

Ans.—It can be accomplished by soaking the negative in dilute hydro-fleuric acid, but it is a difficult and dangerous operation, and ought not to be resorted to without due consideration. The acid is extremely corrosive, and so powerful, that it will dissolve glass.

Lancaster's Lens.—Would some member kindly give his experience of Lancaster's New Wide Angle Rectigraph Lens?

Ans.—These are reported to be good, but each lens ought to be tested on its own merits, as all other makes of lens should be before purchase.

Kershaw's Shutter.—Can Kershaw's shutter be made to give time exposures?

Ans.—Theoretically this is not possible, but Mr. Thornton has patented an arrangement which he says practically accomplishes the desired end. See his advertisement on cover.

Another method would be to add a projecting flap shutter in front of the Kershaw, and work it by hand.

Sale and Exchange.

(Our Sale and Exchange columns are open to subscribers free; to non-subscribers a charge of 4d. will be made up to 12 words, and ½d. per word extra.

To be sold, cheap, one of Ashford's Tripods, cost 18/-, will take, 10/6. C. Dawson, 66 Peter Street, Manchester.

10 x 8 Bellows Camera, 1 Back and 5 Carriers, all in perfect order, suitable for making enlargements. £1, cheap. J. Jones, 40 Wellington Street, Moss Side.

For Sale, Lancaster's ¼-plate International Camera, lens, and 1 slide; no stand. New last year. Cheap, 32/–. Have purchased ½-plate outfit instead. I. Irvine, 17 Stamford Street, Brooks' Bar, Manchester.

New ½-plate Camera, Lancaster's "Patent," best quality, all movements, 1 double slide, landscape lens, tripod and bag. Price, £4 10s., cost £6 5s. Box 442, G.P.O., Manchester.

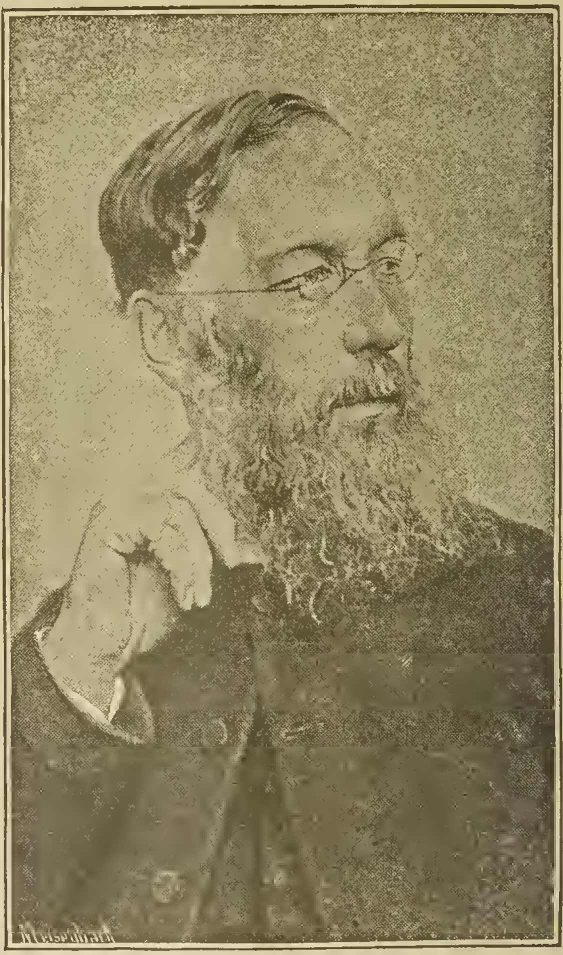
To be disposed of, ¼-plate Camera with Lens, and Palmer's Changing Bag arrangements, and box for 12 plates (no slides needed). Price, 35/–. Two of Lancaster's Landscape Lenses; 11 inches focus for ¼-plate, price 7/6; and 17 inches focus for 15 x 12 plates, price 20/–. To be seen any evening at 346 Ashton Old Road, Openshaw.

Wanted, Cabinet Portrait Lens. State maker's name and lowest price. Walker, New Lorne Street, Moss Side, Manchester.

Reynolds and Branson's Drop Shutter, 1884 and 1885 patent, for time exposures, will fit lens hood about 2⅛in. diameter. Will be sold cheap. 53 Chapel Street, Salford.

All *business* communications to be addressed to the Hon. Sec., Mr. F. W. PARROTT, 53 Chapel Street, Salford.

Letters to the Editor, items for the Sale and Exchange and Question Box Columns, &c., to be addressed to Mr. GEORGE WHEELER, 46 King Street West, Manchester.



Rev. H. J. PALMER, M.A.,
President of the Manchester Amateur Photographic Society.

THE
PHOTOGRAPHIC RECORD
THE ORGAN OF THE
MANCHESTER AMATEUR PHOTOGRAPHIC SOCIETY.

No. 5 OCTOBER. 1888.

CONTENTS

	Page
General Notes	107
Magic Lanterns and Dissolving-View Apparatus ...	109
Dry Plate Making for Young Amateurs	115
Down the Wye with the Camera...	117
Enamelling Chloride Prints ...	116
Rambles—Lymm, Matlock Bath, Chester, Clapham, Miller's Dale, Alderley	119
Our Wide Angle Lens	124
The Question Box...	126
Sale and Exchange	127

General Notes.

By the kindness of the Editor of *The Amateur Photographer*, who has supplied the process block, we are enabled to present our readers with the portrait of the Rev. H. J. Palmer, M.A., the estimable President of the Manchester Amateur Photographic Society.

◆

The Council have had under consideration, the advisability of holding an Exhibition during the coming winter, on a larger scale than usual. We may almost go so far as to say that a decision to hold one has been arrived at. Sundry matters of detail, as yet unresolved, are progressing favorably, and there is every probability that the Council will be able to lay a very promising and complete scheme before the members at an early date To ensure success, the cordial support of every member will be required, and we are confident this will be given.

◆

The ramble season has now terminated, and another class of work, or rather pleasure, will soon occupy the vacant place. Taken as a whole, the rambles have been successful and thoroughly enjoyed by those who have taken advantage of them. About twenty concerted rambles have been undertaken during the summer and autumn by our members. In addition to the printed list, others, such as the runs by the Cyclist section, the excursion to Shropshire, led by our President, and others got up for special purposes, have been organised, and may be credited to the influence of the Society. The number of plates exposed must have been immense, but if an abundance of good pictures has been secured, there is room for satisfaction.

Throughout the season the weather has been very erratic, and utterly regardless of the anxious preparations and expectations of the amateur photographer. Often the day has opened with promises of great things, but before the evening has come, the very heavens have wept at blighted hopes, and the picture maker has gone to bed muttering strange words. The year has not been fit to hold a candle to its predecessor.

◆

Only two photographic societies in the kingdom, viz: the Camera Club, of London, and the M. A. P. S., of Manchester, publish a magazine, recording their proceedings, and the papers read at their respective meetings. The following comment upon the two publications by the Editor of *The Amateur Photographer* will hardly prove satisfactory to the great Metropolitan Society. As for ourselves, we submit to our fate.

"We have received the July number of *The Photographic Record*, the journal of the Manchester Amateur Photographic Society, and, like all the work of that Society, it is exceedingly well done. This journal is worked upon a model which we would commend to the serious consideration of the editing committee of the Camera Club. The Club journal, we regret to find, appears to be carried on mainly as an advertising medium for dealers in photographic apparatus . . . . . The literary matter is of a meagre and uninteresting character, not at all in accord with the high scientific position the Club is supposed to occupy."

◆

The long expected "International Annual" has at length dawned upon the photographic world. It contains an immense quantity of matter, by no less than 230 contributors, and treats upon almost every conceivable phase of the subject. The number of departments and sections embraced by the terms "photography" appear to be endless. and surely this volume contains something suited to all tastes. There are some really valuable contributions, containing original ideas, and describing new methods of working, which will be prized, and act as seed-corn for further developments. If the book has a weakness, it lies in the fact there is rather too much of it. Many of the articles are wordy, and might have been improved by cutting down one half; others could have been spared altogether. If we were asked to give a general opinion of the papers, we should be inclined to say in the words of an old writer, they are "wise and otherwise."

Magic Lanterns and Dissolving View Apparatus

By Mr. J. G. Jones.

Paper read before the Society, September 11th, 1888.

OF all scientific instruments, the Magic, or Optical Lantern is more capable than any other to give instruction or amusement to a large number of persons at one time, The rapidity with which it has grown in popular favour, and the numerous and important improvements in apparatus during recent years, combine to affirm that for young or old, no entertainment of a scientific or educational nature, is so interesting generally, as a Magic Lantern exhibition.

Although mystery and magic were originally associated with lantern displays, the frequent use, by photographic or learned societies, and in scientific and educational institutes, has removed the notion that the effects which appealed so strongly to the eye and imagination, as they were successively presented on the screen, were due to magic. Most schools now teach in the elementary lessons on optics, the main features and principles of construction of the magic lantern, but I shall endeavour to enlarge somewhat on the subject, by treating of the higher class of apparatus, known as Optical Lanterns, and Dissolving-view Apparatus, which may be useful to photographic scientists, teachers, and entertainers.

THE OPTICAL LANTERN consists of a dark box or body, containing a powerful light, together with a system of lenses to condense the light on a picture, or object, and project the same on a white sheet or wall.

The light we shall call the "Luminant;" the condensing lenses we shall call the "Condenser;" the projecting lenses we shall term the "Front lens" or "Objective," and the sheet or white wall we shall designate the "Screen."

THE LIGHT.—The intensity must be in proportion to the size it is desired to enlarge the object, photograph, or picture, and can be either oil, gas, the lime light, or the electric light. The old form of lanterns used to burn colza or sperm oil; but, with improved refining of paraffin, and a better knowledge of the necessary draught or air current required to keep the wicks burning properly; it became possible to use one, two, three, four or five wicks in mineral oil lamps, and so get increased illumination. Naturally, one would suppose, that the best way would be, for anyone requiring a magic lantern, to select a five-wick lamp, and fit up the body and lenses to it. This would be so, if there was no other condition to be studied than quantity of light; a very important matter, however, is the area of the luminant. When the light has to be employed in connection with any optical system, to get even illumination, and sharp definition, it is necessary that the light shall be nearly as possible a moderate sized spot, say half an inch in diameter. This is because rays passing through a lens are bent, or refracted, in accordance with the angle at which they enter. If a very large flame or light is adjusted by condensing and projecting lenses, so that the centre of it is central with the lens, or in the optical axis as it is called, the margin of the flame will also exert its influence, and pass into and out of the lenses at angles which confuse the image. The result of such projections is, that an even illumination is not possible, and either bad definition of the object or picture exhibited, or a waste of the light is caused by the insertion of some opaque substance which must be introduced to cut off these stray rays. From a number of experiments made, it has been found, that the best oil lamp for magic lantern work, is a well constructed paraffin with three wicks. To reduce the risk of anything going wrong to a minimum, iron chimneys are used instead of glass, and an unbreakable or annealed glass plate inserted, so as to let the light pass through it in front of the lamp in a portion of the chimney. At the opposite end of the flame, a silvered mirror is fixed. The light, when wanted for optical projection, is far superior when taken from the flame with the wick placed endwise, or nearly so; hence the three wicks are placed lengthway between the mirror and condenser.

The body can be made of any strong material, but preferably wood, lined with either iron and tin, or iron, or tin only. The first named has the advantage of conducting less heat, and therefore it does not require so much care to be taken when touching the body, while manipulating. In all cases, the body must be ventilated by little doors or apertures, so as to allow a plentiful supply of fresh air. If made with doors, they can be shut down when employing a luminant that does not generate much heat. The lime light, although so very powerful as a producer of light, and though capable of creating an intense heat when employed to fuse metals, is comparatively cool when making a lime incandescent, but the various forms of lime light will be described later on.

We will now consider the oil lamp as an example of a luminant. As previously stated, its position must be central with the optical axis, and so placed in the body of the lantern, that the fitting for the condensing lens is central with it.

A CONDENSER of short focus in proportion to its diameter is best; and as a lens distorts considerably if its proportions are as 1 to 1; *i.e.*, 4 inches diameter and 4 inches focus, it is usual to combine two lenses of the diameter required, and of *double* the focus. For instance, two plano-convex lenses of 7 inch focus, mounted together, with their convex sides in, and plain sides out, will form a compound lens of about 3½ inches focus.. This is found to be a satisfactory form of condenser with the oil light, because it gathers up the rays from a near point, and refracts them quickly; so that after passing through the picture, they are collected by the front lens or objective, and projected on the screen.

By the well known optical law, that light decreases inversely with the square of the distance; if only a moderate light is used, the apparatus must not be removed far from the screen. Lenses must be used to suit the convenience of the hall or place of exhibition, and the condenser adjusted in relation to the light and objectives for this purpose.

It will be gathered from this, that the best condenser and objective for use with the oil light, is not necessarily the best for the lime light; and a condenser for use with long focus front lenses must be adjusted as to its focus, as not only to condense a powerful light onto the slide, but also to have a cone of rays that shall reach the objective, which in turn shall collect the whole of the rays and project them with good definition onto the screen, and so form the picture. The best combined focus for a condenser for lime light lantern is 3¾ or 4 inches; and the best arrangement of the lenses is meniscus next the light, and bi-convex next the slide, both of 4¼ inches diameter. A very good form is obtained by a 4 inch plano-convex next the light, and a 4¼ or 4½ inch next the picture.

THE OBJECTIVE must be capable of giving a sharp focus, and the most satisfactory are those that follow in construction the lines of the photographic portrait lens, which consists of an achromatic plano-convex lens and a correcting lens, mounted at a certain distance apart, in proportion to their focus. The achromatic lens really performs the work of projecting, the other merely collecting the rays after they have passed through the slide, and so modifying the marginal rays that they may, on passing through the achromatic lens, reach the screen in such a manner that all are of equal length, or in other words in focus the same time. By this means, a picture equally sharp all over is obtained, which would not be possible with a single lens of plano-convex or double-convex form, because the rays at the edge of the disc are much longer than those in the centre, and therefore not in focus at the same time. A diaphragm, or opaque plate with an aperture in it, neutralizes this fault to a certain extent, by cutting off the marginal rays, but as this reduces the illumination, making the picture darker, it is better to make the correction optically, so as to utilize the whole or nearly the whole of the rays. Photographers know the value of the diaphragm in photography, for by its use objects at various distances are made to focus together. They also know that it affects the exposure; the smaller the stop the longer the exposure;

because the less light that falls on the sensitised plate, the longer it takes to form an image. As however, daylight, especially in summer, is generally powerful enough to overcome the retardation by a small stop, it is not of so much consequence, compared with the magic lantern, where the illumination is not unlimited.

According to the distance the apparatus has to be placed from the screen for a picture of a given size to be obtained, the focus of the lens has to be selected; for instance, if a lens of 6 inches focus produces a picture of 9 feet diameter at 18 feet distance, it would require one of double the focus, or 12 inches, to produce the same sized picture at double the distance, viz., 36 feet. A very good rough-and-ready method to find the correct focus of lens to use, is to divide the diameter of the disc or picture required on the screen, by the diameter (or in the case of a cushion or square shaped photograph, the diagonal) of the photo or picture, and divide the answer by the distance the apparatus is placed from the screen. Suppose the diameter of the disc on the screen is 9 feet; divide this figure by the diameter in inches of slide picture, say 3; this will give 3; now measure the distance between aperture and screen, say 36 feet; divide this figure by the 3 previously obtained; and this will produce 12, which is the focus in inches, of lens required. To obtain the distance to place apparatus from screen, when the focus of lens, and diameter of discs on screen and slide are known, divide the diameter of the disc on the screen by that of slide, and multiply by focus of lens, thus:—screen disc 9, divide by slide disc 3, equals 3; multiply by focus 12, equals 36, the distance required, in feet.

The more rays that can be collected after passing through the slide, the better the illumination of the picture on the screen, hence, the diameter of the lens must agree with the cone of rays. As this can, to a certain extent, be altered by the position of the luminant from the condenser, and also by the focus of the condenser itself, it follows, if the rays have to travel nearly parallel, as in the case of illuminating a 12 inch focus lens, it should be of a large diameter, say 2, or better still, 3 inches diameter. With a short, or medium focus, up to 8 inches, a less diameter is better, as the condenser and the light have to be so arranged that the rays converge quicker, or are refracted so that they may come to a point or focus at half the distance of the previous example.

For objectives up to 7 inches focus, 2 inches diameter is sufficient; for 8 or 9, 2⅝ inches is a good diameter. While the smaller—2 inches—gives excellent results, the maximum of light with the finest definition, is obtained by the long focus, such as over 9, and up to 14 inches in the new combinations of 3 inches diameter.

In speaking of focus, it is usual to give equivalent foci; that is, the value of a compound lens is taken as equivalent to that of a single lens that gives the same sized picture. For instance, if a combination of lenses produces on the screen a sharp picture of the same size as that from a biconvex lens of 6 inches focus, they are said to have an equivalent focus of 6 inches.

THE SCREEN.—If portability has not to be considered, the best form is that having a distempered surface, with a foundation of canvas as used in scene painting, or a paper-faced canvas. The screen being opaque and white, the light is not lost by transmission, but is reflected back to the audience. If a portable screen is required, linen is the best, as the texture is close, and yet fine, capable of giving a good picture, either by reflection or transmission; hence, the audience can be placed either in front or behind the screen.

Having spoken of the oil light as a luminant, we can now treat of the Lime Light in its various forms, and take them in the progressive order of their intensity. 1. Oxy-calcium light. A stream of oxygen gas is blown through a flame of methylated spirits of wine, against a cylinder of lime, and the heat generated makes the lime incandescent, producing a strong light. The spirits of wine is usually supplied to the wick from a cistern outside the lantern, and is so arranged that a certain level flow is kept up along the tube to the wick-holder; the fountain arrangement regulating the height. There is an amount of difficulty with this light, if great care is not taken to keep the spirit tube perfectly horizontal. If the lantern has to be inclined at all, it is necessary to have adjustment to the jet holder, so that it may be set level.

The Oxy-hydrogen light can be produced by blowing oxygen through a flame of house gas at its ordinary pressure, against a lime cylinder, or through house gas or pure hydrogen at high pressure. If the former arrangement is adopted, it is usual to connect an india rubber tube from the nearest house supply gas burner to the hydrogen tube of the jet, and the oxygen is supplied from an india rubber gas bag, on which weights have been put to give the necessary pressure, and connected with the second tap of the jet. This jet is so made that each gas is conveyed separately along the tubes to a bent nozzle, and the two streams, after leaving the jet, commingle on the lime cylinder. As the hydrogen or house gas has been ignited first, the oxygen by the pressure used, raises the temperature, and consequently, the illumination of the incandescence to a greater degree than in the oxy-calcium. The amount of light obtainable depends largely on the force with which the house gas is supplied. Some private houses have a very indifferent pressure, while many large buildings have a considerable force, in order to supply the numerous lights for ordinary illumination. At the time when a magic lantern is being used, the room is darkened, resulting in an augmented pressure of gas, which is available for the purpose of a lime light. Oxygen gas, only combines with hydrogen or house gas in certain definite proportions, and however much the pressure on the oxygen supply is increased, the light produced will not be improved unless a proportionate increase is obtained in the pressure of the hydrogen. This contains the principle of the *High-pressure Oxy-hydrogen Lime Light,* and jets are constructed with a view to secure the correct mixing of the two gases, just before they emerge from the jet, and impinge on the lime cylinder.

The gases can be kept in separate india rubber bags placed between pressure boards, and weighted with 1½ or 2 hundred weight; or iron cylinders may be used, having the gas compressed into them at high pressure, so that when the valve or tap is opened, the gas rushes out with force. The latter system is now the most popular method, as a great reduction in bulk is brought about, and the gas can be kept any length of time, to be used as required. It is possible to compress 25 cubic feet of gas into a steel cylinder about 30 inches long by 4 inches diameter; representing a pressure equal to 110 atmospheres, or 1650 pounds per square inch. Regulating valves are attached to the necks of the cylinders, so that the gas is only allowed to escape slowly, and if care is exercised in moving the lever of the valve, the gas can be supplied in proper proportions to one or more lights. When the light is required to be raised or lowered, it is better to use one of the patent automatic valves, and this is so constructed that as the ordinary valve of the cylinder is opened by the lever, the gas fills a little bellows of strong india rubber; to the centre of which is fitted an easy running archimedean screw, which terminates in a finely ground conical point. When the bellows is full, the point is forced tight into the valve of the cylinder, and stops the gas; but the moment the stop cock connected with the bellows is opened, the gas escapes, and allows the screw point to leave the valve, and so more gas escapes into the bellows. In this way the bellows is always supplied with gas, and a spring, stronger or weaker as may be desired, above the bellows, regulates the pressure at which it leaves, by the stop cock of the automatic valve, to supply the jet. The pressure this spring is generally set to, is from twelve to twenty-four inches of water or half to one lb. pressure on the square inch.

To be continued.

Dry Plate Making for Young Amateurs.

By Mr. J. Jones.

Read before the Society, Aug. 14th, 1888.

YOU will no doubt think this subject has been pretty well threshed out, but there are many young hands to whom the making of their own plates would be a labour of love, and to such I address myself.

In the first place, a drying cupboard is necessary. A plain wooden box of ½ inch deal boards, 17 inches long by 10 inches wide and 9 inches deep, will be found most convenient for the purpose. It is quite large enough for quarter plates and half plates, which sizes are sufficient to meet the requirements of young amateurs.

The box must be made quite light-tight, and fitted with strips of wood two inches apart, running from front to back on each side. Of course, it stands on end, and opens like a cupboard. Some strips of wood ½ inch wide and long enough to rest on the supports at either side should be introduced. These must be grooved to allow the plates to stand in an upright position about an inch apart, thus leaving an open space between each plate so that a current of air may pass between. For ventilation, perforate the bottom in the centre with ½ inch holes, leaving a margin of quite 1½ inch from holes to side. To prevent the entrance of light, a false bottom must be placed inside. It must be ½ an inch smaller than the inside of the box, and must be mounted on rests ½ an inch from the bottom. On the top erect a magic lantern chimney 3 to 4 inches in diameter, and your drying box is complete.

The following formula for the cold emulsion, I find to be the best of various ones tried. Take gelatine 5 grains, water ½ ounce dissolve by gentle heat; then add 10 grains carbonate of ammonia, (this will cause effervescence). Now add 75 grains of bromide of potass and 1 grain iodide of potass. Mix separately 1½ ounce of alcohol and 30 minims of ammonia .880, and add them to the above.

When cold, stir in the following little by little with a glass rod. (This operation must be done in the dark room.)

Nitrate of silver	100 grains
Water...	1 ounce

Occasionally shake it, and in one or two hours it will be ripe enough for all ordinary purposes. I generally put the above solution in a stone jar, which must be corked to keep out the light. To the above quantities add two to three drachms of dry gelatine, and warm gently to dissolve; stir in six ounces of warm methylated alcohol, 190 fahrenheit. When cool, the emulsion will be precipitated to the bottom of the vessel, and the liquid must be drained off. It must then be broken up into small pieces, well washed, and put into a large bottle which must be filled with water. Then tie a muslin cloth over the mouth of the bottle, and change the water every half hour. This must be done from three to five hours. Now transfer the emulsion into an eight ounce stone jar, placing the jar into warm water to melt. Make it up to five ounces with water. This completes the making of the emulsion.

We now come to the coating of the plates. Thoroughly clean the glass plates, put them upon a table, and make them level with a spirit-level. Now get your emulsion, and place the bottle in warm water to melt, after which, strain it through cotton wool placed in a funnel. Measure two drachms of the emulsion for half-plate, or one drachm for quarter-plate, and pour it on the centre of the plate. Spread it with a glass rod, care being taken that there are no air bubbles. Now leave that plate, and proceed with the next one. In the same manner, and so on, until you have coated as many as you require, by which time the plate first treated will be sufficiently set to place in the drying cupboard. If the cupboard is properly made, and light-tight, you can leave it in a well ventilated room to dry ; which should not take more than twenty-four hours. The five ounces of emulsion will coat about twenty to twenty-four half-plates, at a cost of 1d. per plate. In conclusion, I should like to mention one thing, and that is, the longer the emulsion is allowed to ripen before washing, and the more washing it gets, the greater will be the speed and brilliancy of the plates. Wratten and Wainwright's Pyro-Ammonia Developer will suit these plates.

Enamelling Chloride Prints.—Almost every photographer is aware of the weakness these prints have for adhering to the glass, plainly showing that to simply rub the glass with French chalk is not sufficient to cause them to strip with perfect freedom. The addition of a little ordinary clean animal or vegetable oil will assist the operation in a surprising manner.

Take a piece of glass of a suitable size, clean well in hot soapy water, and dry carefully. Now rub the surface over with oil, and afterwards wipe it off again with a clean duster. It must be rubbed till no trace of oil is to be seen, but it will have got into the grain of the glass in sufficient quantity to act. Dust with French chalk, which must be wiped off, so as that which is left on is almost imperceptible. Squeegee the wet print, face down, on the glass, and place in the fender, or a similar place where it will be subject to a medium heat. In a short time it will strip from the glass with the greatest ease.

Down the Wye with the Camera.

By Mr. J. Hanmer.

Easter Monday is not usually the best of days for the amateur who is desirous of acquiring additional pictures for his album, but at that time of the year, the writer, accompanied by a couple of friends after the usual and necessary interrogation "Where shall we go?" decided to visit the Wye scenery.

We left Gloucester Station at eleven o'clock, and although at that time the weather was dull and threatened rain, a strong inclination to risk a drenching predominated, so away we went. After changing at Ross Station, we were soon favoured with a foretaste of beautiful scenery; Goodrick Castle, Kern Bridge, and Coppet Hill being passed in quick succession. Then a couple of tunnels, and the word was given "Symond's Yat."

No time was lost in depositing every spareable article in the booking office, and learning that the distance to Monmouth was five miles, we crossed the river by the ferry boat at 12-40, and "made tracks" for that town.

The first spot of interest was the Dripping Well, formed by water dropping down the face of a cliff which is some forty feet high. The river is fordable, and having once been the scene of a border conflict is called by the uninviting name of "The Slaughter." A halt was made at the Dripping Well for luncheon. While the camera was being fixed, an unfortunate accident placed the short focus lens "hors de combat," and had we not luckily been provided with one of longer focus the result of our day's trip would have been very "negative" indeed.

Resuming our march we were soon in full view of the "Seven Sisters," a name given to a group of large rocks standing boldly out from a wooded hill to the right. Having on a previous visit secured a good negative of these from the Yat side, we passed on through the wood, and prepared to take them from the Monmouth end. Here our joy was turned to mourning, as the clouds discharged a tremendous storm of hail and rain, which lasted for upwards of fifteen minutes. During this time two of our number, and the precious camera sheltered under an umbrella originally designed for one person, while the other unfortunate "hung his harp" on a friendly willow-tree.

However, even storms come to an end, and old Sol stopped the hail by appearing to "reign," while we hailed him with delight, and at 2-36 were enabled to secure view No. 1.

At the Yat Station we were informed that at one o'clock the "Seven Brothers" were expected to arrive, and kiss the "Seven Sisters," but being a little behind time, we are unable to say if this interesting ceremony really occurred, but any amateur visiting this neighbourhood is strongly recommended to make the acquaintance of this handsome family.

We tramped on over the now slippery ground, and after an ineffectual attempt to focus a couple of fawns browsing on the hill side, we pitched for No. 2, which took in a stretch of the river, an island, and still more interesting to us, the scene of our late wetting including the aforesaid willow tree; time 2-54 p.m.

The next object demanding attention was the fine mansion of Mr. Bannerman, called "The Seys"; exposing two plates. Time 2.59, then fourth view, time 3.11, down the river.

From near the same point, we obtained the fifth view, perhaps not quite as interesting as those taken previously, but nevertheless not to be despised.

A little farther on is the road to Monmouth, and having been assured that below this point the views from the river bank were very common place, we decided to follow the road, but not having the good fortune to meet with anything specially picturesque, the camera was not again called into requisition before reaching Monmouth. Stopping a moment to note the state of the river Monnow, which probably from recent freshets was of a bright red colour, we made for the Market Place for refreshments.

After satisfying the inner man, we were gratified to find the sun once more smiling on us, and determined to steer for the "Yat," viâ the celebrated "Buckstone Rock." Crossing the river by a substantial stone bridge, leaving Monmouth on the left, we followed an uphill path, and after travelling about two miles arrived at the foot of the hill on which the Buckstone rests. Another long and strong pull landed us on its brow, and passing through a small gate we reached our goal.

The rock itself was almost forgotten in admiration of the prospect that opened before us. In front, and on either hand stretched miles of thickly wooded valleys swelling into chains of hills clothed in verdure, beyond these, the towering Welsh mountains formed a fitting background for a scene almost surpassing description. We could not afford much time to "enthuse" as the sun was rapidly nearing the horizon, so the camera was mounted with all speed. Stimulated by a strong desire to be rendered immortal, two-thirds of our party ascended the rock, while the other fraction remained below to work the oracle. Once more we were favoured with a storm of hail and rain, and had almost given way to despair, when again "the clouds rolled by." The photographic smile having been duly assumed, at 6-25 p.m. the cap was removed for No. 6. This being taken in the beautifully clear light which so often accompanies the hour of sunset, proved a great success.

The rock is of that formation known as Old Red Conglomerate, and that excellent guide book, "A Week's Holiday in the Forest of Dean," gives its dimensions as follows:—Greatest length on the top, 19 feet; breadth, 13 feet; entire circumference, 57 feet; height, 12 feet. The point on which it stands is about 2 feet in diameter. Having bagged the apparatus, the truth suddenly dawned upon us that we were some miles away from the Yat station, and with darkness rapidly approaching, had to traverse an unknown road. The hill was quickly descended, and passing through Staunton village, near the church, we entered a lane plentifully besprinkled with petrified kidneys. Then crossing a rain swollen stream, a final uphill pull landed us at the edge of a wood, through which lay the path to the station. At this point we must have taken the wrong direction, and quickly found ourselves in a plight which is better imagined than described. With visions of lost trains hovering before our eyes, for a full half hour we blundered on through mud and water, over brooks and tree roots, now breaking into a run, now forced by the roughness of the road to take it more slowly, until with mutual congratulations we emerged from the wood in the locality of the "Slaughter," and saw the welcome station lights twinkling merrily about a mile farther up the river. It was now plain sailing, and the Yat was reached in time to resume possession of the now acceptable wraps.

Thus ended a day, which, although not favourable for photography in consequence of misty clouds and short lived gleams of sunshine, had nevertheless enabled us to acquire half a dozen fair negatives and some valuable experiences.

The Wye valley in the district of Symond's Yat is all that the fastidious amateur could desire, and we advise every reader of the *Record* on a favourable opportunity to take a trip "Down the Wye with the Camera."

Rambles.

LYMM.

On Saturday, the 9th June last, a party of the Society ventured amidst a thunderstorm, a visit to Lymm. On reaching this ancient town a transformation took place, and we were greeted with fine weather. The town, situate about a mile from the station, occupies a picturesque situation on the new red sandstone terrace that runs across North Cheshire.

Our first attention was given to the Stocks and Cross, built on steps cut out of the solid sandstone. Here cameras were unshipped in good earnest. A passer-by was heard to remark that "there would be nowt left of th'owd Cross." One of the views contained a traction engine which was passing.

We were allowed through the kindness of Mr. Battersby to take views of Lymm Hall, a picturesque old grey building, within a moat, and formerly the residence of the Domville family. A splendid azalea tree, a complete pyramid in full bloom, supposed to be the finest plant in the north of England, also received attention. An isochromatic plate was required to do it justice.

After leaving the grounds, the church was next visited. This is placed at the head of a charming dingle, through which the Dane rushes down. Several views were taken here, shewing the reflection of the church in the lake, formed by a dam across the stream.

After visiting the dingle, which is a great source of attraction to visitors, the inner man began to complain. This was appeased by tea, &c., previously ordered at the Golden Fleece. The party then returned to Manchester. 20 cameras were present, and 110 plates were exposed.

S. F. FLOWER.

MATLOCK BATH.

The 1 p.m. train from the central station carried our party, consisting of ten individuals, and including nine members, with their cameras, &c.

We were especially favoured by our photographic enemy, the weather, the day being a glorious one; in all respects equal to that experienced by our Society when Agecroft Hall was visited.

Arriving at Matlock Bath at 3 p.m., we set out in search of the best subjects wherewith to fill our slides. Passing over the bridge, which afterwards proved to be the best standpoint for photographing the High Tor; one of the best examples of rock scenery in Derbyshire, we passed along the high-road through the town, towards the village of Cromford. A precocious youth at the bridge announced us as "a German Band." Arriving at the ferry we paid the usual fare across the river Derwent, and reached what are called "The Lovers' Walks." Here we commenced operations, and were soon deciding exposures on river scenery and the above named walks. Returning across the ferry, we secured a view of it, also the opposite view, including the lofty rocks called by the romantic name ot "The Lovers' Leap." We now re-enter the village or town oi Matlock Bath, and wend our way to the High Tor, an imposing mass of limestone with the river Derwent flowing at its base. After selecting the best views of this, the boast of Matlock, we are reminded by our own sensitive bodies that the hour has arrived when our appetites require appeasing. We therefore proceed to "the Peveril," and arrange for the requisite number of plates to replenish our own exposures to the country air. During the coating of these plates, ordered with thick films, a few proceeded to secure a street view close by, and the remainder, after a refreshing rinse under the tap, filled in the time with a pipe, by the river flowing by the roadside.

After the needful manipulation of our plates at "the Peveril," we adjourn to a convenient spot near the station for the customary group of the ramblers. The return was by train leaving Matlock at 7-40 p.m., arriving in Manchester two hours later. A total of forty-eight exposures were made.

S. L. Bostock.

CHESTER.—Morning division.

Members to the number of seventeen met at the Exchange Station, and left by the 9-40 train.

On arriving at Chester, the whole of the party proceeded to the Cathedral. We there found two members already at work. After presenting the necessary order to photograph, &c., several of the party decided to remain and take views of the interior, while the others, including a few ladies, took a passing glance at the busy market, and made their way to the river.

A good sized boat and rowers were engaged, and we proceeded up the river. The first stopping place was the cottage by the Iron Bridge. Upon landing, a pleasant walk through the meadows brought us in view of the front of Eaton Hall, the residence of the Duke of Westminster. After many views of the place had been taken we turned back to the cottage, where a pretty view was obtained, from the other side of the river, including the cottage and bridge. Refreshments were obtained, and after a short rest we again embarked, and rowed down the river to the Ferry, where more views were taken.

After securing photographic views and subjects to our heart's content, we again took boat and returned to Chester, arriving there about five o'clock. On landing, we came across about eight members of the afternoon party, but we left them and made straight for the grill in Foregate Street. Here we were very well served with a good substantial tea. After discussing this, the bulk of the party made their way to the station, while the remainder took a walk partly around the walls of the city, and obtained several other views.

Having packed up, we set out at a good pace for the station, where we found other members of our party waiting. We took the last train and arrived in Manchester about ten o'clock, having had a most enjoyable day.

J. G. Jones.

CHESTER.—Afternoon division.

The supplementary ramble under the leadership of Mr. J. A. Furnivel, was held on the Saturday afternoon. Some eight members, including the conductor, met at Chester station instead of Exchange station. The zealous officiality of the railway company having hurried the leader to the seat of operations before his proper time, he was found by the main body of the party on the platform calmly smoking his cigarette and enjoying things generally. Mutual congratulations and explanations having been performed, the leader then endeavoured to convey his flock to the Cathedral. We say, endeavoured, because misfortunes never come singly, and he had the misfortune to lose two of his flock in that short distance. The remainder reached the Cathedral in safety, and work commenced in good earnest, plates being exposed on both interior and exterior. It is a short step from the Cathedral to the wall of the City, and as might be expected, King Charles' Tower came in for its proper share of attention. St. John's Church being next on the programme, the party wended their way thither, and the quality of various maker's plates again tried. The river being a next door neighbour of St. John's, a field was opened for more exposures, and credit was done to another district, though we are still waiting to see the results.

Computation makes the number of plates exposed by Mr. Furnivel's party about forty—the two lost members bringing an element of uncertainty into the calculation.

There is little else to record, for the morning party on their way to tea, came on the scene, and the greatness of the lesser was merged in the brilliancy of a greater.

CLAPHAM.

A party, small in numbers, owing to the train time having been altered, met at Victoria Station on July 18th last, for the purpose of visiting and exploring Clapham.

The village of Clapham is about a mile and a quarter from the station, and the road to it is along a winding path, with the majestic Ingleborough towering up in front. For fully a mile along this road, the village is entirely hidden from sight, but on attaining an eminence in the road we get a good view of the picturesque little place, irregularly built on the banks of a rapid stream, and embowered amid beautiful trees.

Permission having been obtained, through the kindness of the Rev. M. T. Farrer of Ingleborough Hall, the lord of the manor, several views were taken in his neatly kept and beautiful grounds.

As a visit to Clapham is not complete without exploring Ingleborough Cave, the party were conducted through it by the old guide, Mr. Tennant. This cave extends about 1000 yards, and with the exception of one or two parts, the general passage along it is easy. There are chambers of varying height; and innumerable stalactites and stalagmites fantastically adorn the roof, base, and sides. Many of these formations have special names; names of objects they strikingly resemble, though varying more or less as to actual size. The principal ones are the "fleece," "bee hive," "jockey cap," and "lady's cushion." Some of the stalactites and stalagmites unite, forming vertical columns. In two or three places there are stalactitic formations, which, when touched with a stick, give out a beautiful bell-like sound. The waterfall, or miniature shower bath, is a pleasing sight, and its silvery tones make a pleasant break in the silence around. The water rushing over a suspended canopy, falls in a myriad drops to the bottom of the cave.

Leaving the cave, and following the road about half a mile brings us to Trow Gill, a remarkable opening in the rocks, with perpendicular walls of over 100 feet. The rocks on both sides run from east to west with a slight inclination forming an angle, in which there is a narrow passage leading in the direction of Gaping Gill Hole.

On the return journey, Clapdale Castle may be inspected, though now only a farm house. In the time of King John, or earlier, there was an extensive structure bearing this name, which existed for a long period afterwards. Dodsworth says it was "large and strong, and standeth on the skirt of the high hill Ingleborrow, w'ch shooteth tow'ds Clapham, and was the desmayne of ye Claphams in later times."

Returning from here, the party reached the village in time for a substantial tea, provided by Mrs. Capstick at the post office. On the return walk to the station, that building was thought to make a picture. Cameras were planted, and the operation of focussing gone through, when a whistle was heard—cameras were at once seized, and a rush made, pell-mell into the station, minus the view.

S. F. FLOWER.

MILLER'S DALE.

This ramble, held August 18th, was a very enjoyable one. Fourteen members started from the Central Station, with a supply of over sixty plates, nearly everyone of which was exposed during the afternoon.

The route on this occasion was reversed from that usually taken, the start being made from Buxton. Proceeding down Ashwood Dale; after "a contemplation of Shakespeare," cameras were soon at work at the famous Lover's Leap. Views of the wooded cliffs and winding road, as well as the old mill and weir, kept all busy until capped by the rugged outcrop of Topley Pike. A brisk walk along the stream soon brought us to the cottages for tea, and the rest of the evening was spent in leisurely sauntering through Chee Dale, with that friendly interchange of ideas so dear to lovers of the photographic art.

The station and home were reached in good time, and for once in a way Old King Sol met the wishes of the most fastidious of the party.

Wm. STANLEY.

ALDERLEY—Cyclists.

On Saturday, the 16th inst., the opening trip of the cycling members was made to Alderley. The party consisted of 11 gentlemen and 4 ladies, mounted as follows: 3 tandems, 7 tricycles, and 2 bicycles. Leaving Old Trafford at 2-35, Cheadle was reached at 3-30, as per programme, and Alderley at 4-45. The weather, which had been rather gloomy in the morning, turned out as fine as we could wish. The rain of the day previous had laid the dust, and made running on the roads very enjoyable. Six cameras were brought, and 36 plates exposed on the Church, Old Hall, Mill and cottages; 3 plates being reserved for a group of the whole party at the old dismantled Inn at Nether Alderley, where we had tea.

The experience of our first ramble is; that the idea of cycling rambles is a very good one, and likely to develop.

W. STANLEY.

Our Wide Angle Lens.

Apparatus.—Messrs. Taylor, Taylor & Hobson, of Leicester, hitherto well known as T. S. & W. Taylor, have forwarded their new price list, together with samples of lenses, spirit levels, and flap shutter for inspection. The value cannot be exaggerated of a good lens, giving good definition, flatness of field, with rapidity of action, and free from distortion, irregularity of illumination, and such like failings. The specimens submitted by the above firm are beautifully finished, and are fitted with every modern improvement. A careful photographer could not fail to produce first-class work with such instruments. Special attention has been given to combining rigidity with lightness in the mounts, and in place of the makers' numbers, which are often misleading, each lens is neatly engraved with the *exact* equivalent focus. Any of the lenses can be fitted with disc, waterhouse, or iris diaphragms and are warranted light-tight. The spirit levels embrace circular and T shapes, mounted in several styles, and as we have had the opportunity of testing them, we can assert that they are thoroughly reliable. The price list contains some capital notes on lenses, given in concise, clear language, and embodying valuable information which every amateur ought to make his own. The kind of lens to use under the varying conditions which sometimes arise, so that the best picture may be got out of the subject is pointed out, and attention is called to the weaknesses and the good points which should be observed when choosing a lens. There are chapters on achromatism, refraction, depth of focus, spherical aberration, &c. Messrs. Taylor offer to send the pamphlet free to all who apply for a copy.

Mc.Kellen's Detective Camera which was exhibited and described by Mr. Mc. Kellen at the September Meeting, consists so far as the outside appearance is concerned, of a compact black leather covered case 10 x 5½ x 6, which may be carried about by a strong leather handle. It is constructed on the principle of the Sutton Reflecting Camera which was introduced some twenty years ago, but did not, on account of defects in making and arrangement, come before the public commercially. By the use of a reflector, the image, full size of the picture, is thrown on a focussing glass placed in a horizontal position; so that the picture is seen with the foreground next the operator when focussing. Mr. Mc.Kellen's special arrangements cannot very well be described in detail, but they comprise amongst others the following:—The mirror instead of being raised by hand, is drawn up by means of a roller-blind shutter. In rising, the mirror (which hitherto obstructed the rays of light, preventing them from falling on the sensitive plate) attains a horizontal position above the lens, thus allowing the image to fall on the plate. Immediately after which the lens is covered by the body of the curtain shutter, or by some other form of shutter as desired.

The ground glass is made of yellow or orange glass, so that during the action no actinic light can penetrate inside the camera.

The lens is a rapid rectilinear, covering well. The focussing is by rack and pinion, the lens being mounted on a front, working inside the box. The milled heads are at one side and are black. so as not to be attractive; indeed the whole thing is unobtrusive.

Three slides are supplied with the camera. The price is £8 8s. for quarter plate size, and Messrs. Marion & Co., of London, are the sole agents for the sale of it.

Developer.—What is the best developer for instantaneous subjects, and how used?

Ans.—Numerous answers were given to this question at the meeting. The new hydrokinone developer was strongly recommended, but we consider that success in instantaneous work depends more upon the quality of the plate than the developer.

Hydroxylamine.—Has any member tried the hydroxylamine developer?

Ans.—Not been tried yet.

Apertures.—Is there any advantage in using a small stop?

Ans.—Greater detail, and an equal illumination of the plate are obtained.

Crooke's Radiometer.—Is Crooke's Radiometer an indicator of the *actinic* power of light, or only of its *intensity?* Could it be utilized photographically?

Ans.—This is a matter for experiment. At present we cannot give a definite answer; but Mr. Flower, who has a radiometer, asserts that it will revolve in the dark, from heat rays alone.

Stained Prints, &c.—Is there any means by which the yellow stains, which sometimes appear in the white portions of silver prints after toning, fixing, and washing, can be removed.

Ans.—No.

What is the cause of the above defect?

Ans.—Generally produced by decomposition of the albumen surface.

Faded Negatives.—Can negatives which have not been sufficiently washed after fixing, &c., and are found after some time to be fading, be washed again to remove the whiteness, and prevent them becoming entirely useless?

Ans.—We should think the weakness may be stopped, but you can easily test for yourself.

Lens.—In a double lens of the rapid rectilinear and wide angle type, is the value of the aperture reckoned on the basis of what the diameter of the stop is, in proportion to the equivalent focus, or is the back focus taken as the basis, as in single lenses.

Ans.—Dallmeyer says: "The rapidity of a lens depends upon the relation, or the ratio, of aperture to the equivalent focus. To ascertain this, divide the *equivalent focus* by the diameter of the actual *working aperture* of the lens in question; and note down the quotient as the denominator of a fraction with 1, or unity, for the numerator."

"In order to find the real *intensity ratio*, the diameter of the actual working aperture must be ascertained. This is easily accomplished in the case of single lenses worked with *front* stops, or for double combination lenses used with the *full* opening, these merely requiring the application of a pair of compasses or rule; but when double or triple combination lenses are used, with stops inserted *between* the combinations, it is somewhat more troublesome; for it is obvious that in this case the diameter of the stop employed is not the measure of the actual pencil of light transmitted by the front combination. To ascertain this, focus for a distant object, remove the focussing screen, and replace it by the collodion slide, having previously inserted a piece of cardboard in place of the prepared plate. Make a small round hole in the centre of the cardboard with a piercer, and now remove to a darkened room; apply a candle close to the hole, and observe the illuminated patch visible upon the front combination; the diameter of this circle, carefully measured, is the working aperture of the lens in question for the particular stop employed. The operation must, of course be repeated for any other sized stop that is inserted between the lenses."

It would be of great advantage to photographers generally, if in the description of experiments, &c., the above *intensity ratio* was always recorded, as it is the only real standard of comparison between the rapidities of different lenses.

Newman's Shutter.—Does the Newman shutter give any vibration when used?

Ans.—If the camera is at all firm, the working parts of this shutter are so light, that practically there is no vibration.

Shutter.—What shutter works in the $\frac{1}{200}$ to $\frac{1}{300}$ part of a second?

Ans.—Apply to the makers of apparatus, or consult the photographic Year books.

Furnell's Shutter.—What is the shortest and longest exposures that the above shutter can be set to work?

2. Is there any vibration whatever?

3. Is there any liability to get out of order?

4. Does it equal or excel "The Kershaw shutter"?

Ans.—Mr. T. Morley Brooke has had considerable experience with this shutter; he writes: 1. "The one I have works from the fiftieth part of a second for the shortest exposure, to thirty seconds for the longest, but I believe they are now made to range from one-fiftieth of a second to about five seconds only."

2. There is not the slightest vibration.

3. It is so simple in construction that there is very little liability to get out of order. Mine is as good now as when I first bought it.

4. It excels "the Kershaw" by giving a longer exposure to the foreground than to the sky, but it is not so quick, and is apt, on a dull day, to give thin skies.

Sale and Exchange.

(Our Sale and Exchange columns are open to subscribers free; to non-subscribers a charge of 4d. will be made up to 12 words, and ½d. per word extra.

Wanted, an Optical Lantern, three light. Must be in good condition and cheap. T. M. Brooke, 122 Wilmslow Rd., Withington.

Lancaster's Enlarging Lantern, 5 inch condenser, for ¼ plates In first-class condition. Price, 30/- Address W. B., 11 Denison Street, Rusholme, Manchester.

Wanted, a Whole Plate, or 10 by 8 in. Studio Camera. Must be cheap. T. M. Brooke, 122 Wilmslow Rd., Withington.

Half-plate Burnisher (to burn gas). Perfect condition, 12/6. Ruby Lamp, for gas; good as new, 5/- Ruby Lamp, for oil or gas, new, 6/- Mahogany Camera, 12 x 12, screw, single dark slide, 28 inch range of focus, with screen to focus; would make good enlarging camera; a bargain for 15/- Also massive polished oak Studio Stand, with all movements, price, £2, worth treble at least. Would exchange. A. L. Bostock, Eagle Mills, Manchester.

Lancaster's ½-plate International Camera, with lens, shutter, tripod, 3 double slides, 2 carriers for ¼ plate, and bag (Manchester made). All good as new, £5. Also a Newton's 2 wick lamp. Never used. What offers? G. Crippin, 21 Lyme Street, C-on-M.

Wanted, a Portable Developing and Enlarging Room, wood or iron, Also large trays for developing and fixing. Address, B14 Hope Road, Sale.

For sale, a ½-plate Metal Washing Cistern, with syphon at side. Black enamelled; almost new. Cost 4s. 6d.; will take half. Apply, Editor, 46 King St. West.

For sale, Dallmeyer's 8 x 5 R. R. Lens, good as new. B14 Hope Road, Sale.

All *business* communications to be addressed to the Hon. Sec., Mr. F. W. PARROTT, 53 Chapel Street, Salford.

Items for the Sale and Exchange Column, Correspondence, Question Box &c., should be addressed to the Editor, Mr. GEORGE WHEELER, 46 King Street West, Manchester.

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THE ORGAN OF THE

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CONTENTS

Page
General Notes 129
Platinotype Printing 131
Hydroquinone 133
Home Sensitized Silver Paper ... 135
Painting Photographs 137
Magic Lanterns and Dissolving-View Apparatus ... 138
A Photographic Trip to the Western Isles or Hebrides of Scotland .. 142
Large Developing Dishes 143
Mounts 144
Glass Stoppers 146
Manchester Amateur Photographic Society—Monthly Meetings ... 147
Correspondence 149
Our Wide Angle Lens 150
The Question Box 151
Sale and Exchange 152

General Notes.

The New Year has been inaugurated by the purchase of a new optical lantern arranged for oxy-hydrogen lime-light, and possessing the latest improvements. Any member of the Society, whose purposes it will serve, is entitled to use it at home for entertainments, &c., on conditions that may be obtained from the Secretary. In addition to this, a slide cabinet is to be formed, and over four hundred slides have already been promised towards it. These are to be lent out to members, separately or with either of the two lanterns now owned by the Society.

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The annual winter Exhibition of members' work was held at the Athenæum, on January 8th, and the two following days. It proved as successful as its predecessors, so far as attendance of the public, and the quality of the exhibits were concerned. Taking into account that no special effort was made to obtain prints, further than sending out a circular, and no inducement was offered in the way of prizes, the number of pictures shown was comparatively good, though not by any means equal to the capabilities of our Society, for quite a number of really good photographers were "conspicuous by their absence." Expressions of pleasure and interest by the general public were frequently heard about the room, and the local newspapers gave reports that contained little but commendation. Exclusive of the slides prepared for the Lantern Exhibitions held each evening, over six hundred exhibits were displayed; embracing twenty framed enlargements and about fifteen beautiful transparencies. The lecturers who described the slides shown at the Lantern Exhibition gave great satisfaction.

◆

The letter which will be found in another column from our respected President is worthy of special attention. It is not the first time the subject has been mentioned, but hitherto nothing of a practical nature has arisen from it, although old time has constantly reminded us that "men and things are fleeting fast." There is no great difficulty in working out the idea; it is simply a matter of organization. We have plenty of members who would take a pleasure in working a district that they are acquainted with along with a few others, constituting themselves into a sub-committee for the purpose. In this manner the greater part of Manchester and Salford might be mapped out, and handed over to various sections of our members. These could meet, and formulate plans to suit their own convenience; while a central representative sub-committee could deal with the results on a uniform system.

◆

We have a large and ever increasing Society, and we require some method by which we can bring more members into active relationship with its control, or in other words we want some object that shall cause a larger number to take an energetic interest in our success. This want can be met by taking up some general scheme such as the one suggested in the preceding paragraph.

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A very excellent Exhibition of Photographs has been held at Oldham under the auspices of the Corporation of the Borough. About one hundred photographers—professional and amateurs—contributed exhibits, and an abundance of honours was provided for competition. The Oldham Corporation are to be commended for their spirited action, which contrasts favorably when compared with that of the neighbouring city.

The Manchester Amateur Photographic Society filled a prominent place in the Exhibition, supplying two out of the three judges on the pictures, viz: the President, and Mr. S. F. Flowers, a vice-president. Besides this, two other vice-presidents, Messrs. Wade and Davenport received silver medals for lantern slides.

Mr. Wade received the award for the best series of not less than six lantern transparencies in class VI., open to professionals or amateurs; and Mr. Davenport obtained his silver medal for the best set of not less than four lantern transparencies in class XII made on the Mawson plate; also open to professionals and amateurs. Both gentlemen deserve to be congratulated upon their success.

Platinotype Printing.

By T. Morley Brooke.

Read before the Society, December 10th, 1888.

THE growth of Platinotype printing during the last two years has been most remarkable. At all the exhibitions, platinotype prints now take a very prominent place; whereas, a couple of years ago, they were rarely seen.

As most of you are aware, there are now three processes, viz: Willis' hot-bath, Willis' cold-bath, and Captain Pizzighelli's printing out process. Our friend Mr. Whitham is going to tell us all about the latter, so I will confine my remarks to Willis.

The pictures produced by this process are distinguished by extreme delicacy,. having the appearance of the finest engravings. When you get a perfect print, it is exceedingly beautiful and artistic, and most important of all, it is quite permanent; permanent as the paper it is printed on.

It is by no means an easy process in careless hands, and has one or two serious disadvantages, which I will first of all point out. In the first place, you must have really good negatives, full of gradation in tone and vigorous withal. A thin fogged negative is not of any use. One ranging from clear glass in the deepest shadows, through all the tones, to full density in the extreme high lights, is required if perfect prints are to be produced.

Then again, the paper must be kept absolutely dry, the least damp practically ruins it.

Another great disadvantage is that you can barely see what you are doing when printing; you certainly see a faint image, but when double printing to introduce a sky, you have to learn the exposure by experience, or guess at it, for, with rare exceptions, the sky must not be printed so that you can see any image of it before developing, or you will have it much too dark (an example shewn). On the other hand, with careful manipulation, the results are so fine, that I think it well repays you for any difficulties there are to master.

To work this process, you require a 23 x 3 inch calcium tube to store full sized sheets, a 6½ x 4 inch calcium tube to hold cut pieces and undeveloped prints, developing dish of enamelled iron, rubber sheets for printing frames, thermometer for testing temperature of bath, and gas lamp with rubber tubing for heating the bath.

On receiving the paper remove the wrapper, and place it in the long calcium tube, as it is absolutely necessary that it be kept perfectly dry before, during, and after it is exposed to light.

After placing a piece of paper in the frame, do not forget to cover it with a sheet of the rubber provided for that purpose, and be quite sure that the frame, negative, and back are alike free from moisture. Also, keep your fingers off the sensitized surface, for fingers are always more or less damp.

In printing, nothing but experience will teach you when it is done; but as a rough guide, I may say that all detail should be visible; some *very* faintly and the deepest shadows of a light orange brown.

The prints should be developed as soon after printing as convenient, and the unprinted paper preserved in a calcium tube. Don't think that the air here is ever absolutely dry; it is nothing of the kind; so don't keep the paper in anything but one of the special tubes.

Development should be proceeded with in a weak white light, or gas, or lamp light. The developer is made up of a saturated solution of neutral oxalate of potash. It is better to make up a quantity at once, using hot water to dissolve the potash. It will keep indefinitely. The company recommend that it should not have the least acid re-action, but I find in practice that it does not make much if any difference, if it be slightly acid. Pour enough developer into the dish;—it should be at least half-an-inch deep,—and place it on the gas lamp, until the temperature reaches 160 to 180 degrees. Now float the print, printed surface downwards, for five to ten seconds on the hot solution, and on raising it the development will be found complete. I well remember my first print, I was quite startled by the suddenness of the change.

After the print has been developed, you may pour the solution into another bottle, and kept from strong light, it may be used again and again; keeping it up to the desired quantity by adding fresh solution as necessary. There is a great latitude (100 to 190) degrees, possible in the temperature of the developing solution for the *black* prints. Over exposed prints may possibly be saved by using a low temperature, and those under-exposed by using a high one, but they are rarely so good as correctly timed prints.

The print now requires clearing, to remove all traces of iron salts from the paper before washing in plain water; otherwise the iron salts would precipitate on the paper, and degrade the whites.

Make up a solution of 1 ounce of citric acid to 20 ounces of water. As soon as the print is removed from the developer, place it in part of this acid bath, in a porcelain dish, printed side down, and let it remain there for ten minutes, then remove it to a second bath for ten minutes, and again to a third for a like time. All this time the prints should be kept moving, so that the solution may act evenly on the surface.

Now wash thoroughly for an hour in frequent changes of water, and the print is ready for drying. If all has gone well you will have "a thing of beauty and a joy for ever."

There is also a variety of this paper which gives brown tones, called "the improved Sepia paper." I have brought a few prints on this paper, but unfortunately I used a very old developer, and the whites are very much degraded; still the effect is beautiful, soft and delicate. With few exceptions the mode of developing is the same as for the black kinds of Platinotype paper. The paper is more sensitive to white light, so increased care must be exercised in printing. Unlike the black prints, sepia may be affected by light in the acid bath; so manipulate in a very weak light.

To develop, add to each ounce of the solution of oxalate of potash, one to two drachms of a special solution supplied by the Company for this purpose, and proceed in the way described previously. The object of the special solution is to give purity to the whites. The bath, after use, must be kept in the dark and *not* used for black prints.

The prints are cleared and washed the same as other paper.

Hydroquinone.

By THE EDITOR.

A MASS of formulæ for working this revived developer has lately been published in the Photographic magazines. Each has its advocate, and each is said to be better than the other. The variation in quantities is remarkable to say the least about it, for to one ounce of water, from one and a half to eight grains of Hydroquinone are given; seven to forty-eight grains of potash, ten to forty-eight grains sulphite of soda, and other sundry chemicals on similar wide ranges. This must be very confusing to the beginner. If, in using a developer, the properties of the ingredients, and an idea of their relative proportions have been apprehended, there is a likelihood of its action being guided aright, and good results obtained from it, for chemicals are good servants but bad masters. The positions taken up by the ingredients may be simplified by describing them as the developing agent and its preservative, the energizer, and the restrainer. We will place the developer under consideration in this relationship, adding a few notes upon points that are worthy of being kept in mind. The proportions given below will be found trustworthy, and will produce a capital negative at short notice.

THE DEVELOPING AGENT.—Hydroquinone. The salt is nothing like so soluble in water as pyro, and stains badly if used without a preservative. If properly made up, it will develop a number of plates in succession, keeping quite clear, but works slower, after several plates have been developed. Use three grains of hydroquinone to one ounce of water.

THE PRESERVATIVE.—Sulphite of soda, or metabisulphite of potash. Use eight grains of the sulphite of soda to one grain of hydroquinone, or two grains of metabisulphite of potash to one grain of Hydroquinone. As will be observed, the last-named preservative is the most powerful of the two, but if it is used, the energizer will require to be rather stronger, because the metabisulphite has somewhat of a neutralizing action on the alkali. Sulphite of soda is noted as an unstable salt and requires the addition of an acid, such as citric or sulphurous acid, to keep it up to the mark.

THE ENERGIZER.—Potassium hydrate, or sodic hydrate. These are our old friends soda and potash, but in a new form, and more energetic for our present purpose. Use two grains of potassium hydrate to one grain of hydroquinone, or three grains of Sodic Hydrate to one of Hydroquinone These alkalies should be obtained in the stick. They are caustics, and must be handled with care, or will burn the skin, causing bad sores.

Carbonate of Potash may be used as an energizer, but has not the power of the above-named hydrates. Twelve grains of the carbonate will be required to one grain of hydroquinone. If too much is used it will cause stains. Bromide should be used with it.

THE RESTRAINER.—Bromide of Potassium. This is rarely required, and has the tendency to make the high lights too dense. If used, a proportion of one-sixth of a grain of bromide to one grain of hydroquinone will be sufficient. The action of bromide upon this developer is more intense than it is upon pyro.

Suppose we wanted twenty ounces of developer made up as above mentioned; we should compound it as follows:—

Hydroquinone	60	grains
Metabisulphite of Potassium ...	120	,,
Hydrate of Potassium	120	,,
Water	20	ounces

Or—

Hydroquinone	60	grains
Sulphite of Soda	1	ounce
Citric Acid	30	grains
Sodic Hydrate	180	,,
Water	20	,,

It would not be wise to make the developer in one solution, though that could be done. A better plan would be to place the developing agent with its preservative in a bottle with half the water, and into another bottle place the energizer with the other half of the water. This would allow of variation in development to meet the requirements of different subjects. The restrainer should be kept separate. Alter proportions as practise may indicate.

Home Sensitized Silver Paper.

By Mr. E. T. Whitelow.

Read before the Society, December 10th, 1888.

THE fragment of ancient history to which at the request of our esteemed Secretary, I invite your attention for a few minutes, has not much reference to what I now practice, but rather to events which happened before the photographic deluge, by that I mean the introduction of the commercial gelatino-bromide dry plate.

In that golden age I in common with most amateurs would have repudiated as a personal insult the suggestion that I should take a negative on a plate prepared by someone else, and although Durand's paper was obtainable, I experienced a certain loss of self respect every time I purchased a sheet of his ready sensitized paper.

But other times, other manners and morals too ; my degeneration is now complete and like the most recent purchaser of a guinea set all complete, I buy my plates and paper all ready for use, and am thankful that I can do ; before long I may even send out my plates to develop, and get my printing done at so much per dozen, and perhaps ask a friend to kindly expose a few plates for me. Notwithstanding all that this confession implies, I still maintain that for landscape work the photographer who does not mind the trouble, and wishes to obtain the best results possible on albumenized paper, can only do so by sensitizing the paper himself, and by printing and toning as quickly as possible.

My remarks have exclusive reference to landscape photography, and for the bulk of landscapes, I prefer a rich *deep* purple tone, rather inclining to blue black than brown or red.

The first thing to obtain is a suitable negative fully exposed, and yet much denser than most gelatine negatives, I have seen in the hands of other amateurs. This class of negative can only be obtained on a plate rich in bromide of silver, and my favourite plan is to slightly over expose and use a developer very strong in pyro. The next thing and not very easy now-a-days is to obtain suitable albumenized paper, nearly all the papers in the market are only very slightly salted, and are intended to be used with comparatively weak solutions of silver. This is done no doubt to meet the requirements of the professional photographer, who is the principal purchaser of unsilvered albumenized paper. His negatives are usually thin, firstly because such negatives print more quickly, and secondly because for portraiture they give better results than dense negatives. For the tones I prefer the best paper I have ever used is *Formstechers'*, double albumenized paper, which I obtained from Messrs. Negretti and Zambra, of London. Supposing a suitable sample of paper to have been obtained, it is sensitized by *floating*, glazed side downwards on a solution of nitrate of silver, contained in a porcelain dish. I prefer a plain solution of sixty to seventy grains of nitrate of silver to each ounce of water, and when not in use, I keep the solution in a clear glass bottle in a window, where it is exposed freely to the light. A little Kaolin is always kept in the bottle, this removes the discolouration which is seen after a few sheets have been sensitized. The paper should float about three minutes, and care should be taken that no air bubbles are included between the paper and the silver solution. To remove the paper, take hold of one corner and *very slowly* lift it from the silver solution, and suspend it in a wooden clip to dry in a dark room. If sensitized at night it is ready for use next morning, and the best results are obtained if the prints are made the day after sensitizing. If the paper is kept for more than a day or two it becomes discoloured and quite unfit for use. It may, however, be kept for some little time if stored between sheets of blotting paper, which have been previously soaked in a strong solution of carbonate of soda, and then dried. (I may remark here that I always keep the silvered paper which I purchase ready for use in these prepared blotting sheets.) The sooner the prints are toned after printing the better

My method of toning, &c., is as follows :—I prepare my toning bath afresh for every batch of prints in this manner. Suppose I have one sheet to tone, I place in a jug one and a half grains of chloride of gold, one and a half grains of carbonate of soda (not bicarbonate) and fifty grains of phosphate of soda, and pour on to these about five ounces of *boiling* water, and allow the whole to stand for about fifteen minutes. I then make the whole up to about twelve ounces with cold water, and the bath is ready for use and must be used up at once as it will not keep.

The prints are *well* washed in at least six changes of water, and then toned in the usual way taking care to keep them continually moving, and to remove them *before* they have quite reached the desired shade. A word of caution is here needful. The toning bath described above is *very* strong and acts very rapidly, so that great care is necessary, or uneven toning will be the result. I believe there is hardly any kind of albumenized paper to which it is not exceedingly well adapted, and I recommend a trial to any amateurs who find difficulty in the operation of toning. The prints, on being removed from the toning bath, are *dropped* into a dish of water, containing a little common salt. This at once arrests the toning, and care must be taken not to put the fingers into this salt bath until all the prints are out of the toning bath.

For fixing, I use a *fresh* solution of hypo, four ounces to a pint of water, and to this I add half a grain of chloride of gold. This is a suggestion of Mr. Ayres, which was published in the "British Journal"

Almanac many years since, and the additional beauty of tone which is obtained, is such that having once tried it I have never abandoned the practice. On theoretical grounds this addition of gold to the hypo bath is no doubt very objectionable, and ought to induce fading, but I have never found such to be the case. After leaving the fixing bath (in which the prints should remain about ten to fifteen minutes) the prints are rinsed through three or four changes of water, and then immersed in a dish, containing an ounce of eau de Javelle to a quart of water. They remain there about ten minutes, and are washed in a syphon apparatus for about an hour. Longer washing is needless after the treatment with eau de Javelle. The prints are then blotted off and dried as quickly as possible.

The quantity of chloride of gold I recommend to a single sheet of paper, may seem excessive to those who listen to this short paper, but I am writing for amateurs who I imagine do not mind spending an extra twopence over a dozen cabinet prints if the results are worth it.

To those who wish to have the highest possible quality of print with as great a degree of permanence as is obtainable in albumenized paper, I can confidently recommend the foregoing procedure ; the essential features of which are—1st A vigorous negative. 2nd Sensitize your own papers on a strong bath. 3rd Use a freshly made phosphate bath for toning and plenty of gold. 4th A dash of gold in the fixing bath. 5th Eau de Javelle after fixing. 6th Quick washing afterwards, lastly and chiefly ; good luck.

Painting Photographs.—To prepare a photograph for coloring, first take a large brush and wash over the photograph with clean water to ascertain if it be in a proper state to take the color. If the water runs off the surface unevenly, forming globules, as though it were greasy, wipe off the water and then pass the tongue from the bottom edge upward over the whole face of the picture. Repeat the process twice, and on again trying the water it should lie smoothly over every part. This method, certainly, does not seem very clean, but it is preferred by practical photograph colorists to the employment of any of the various preparations that are sold for the purpose.

In painting the shadows of the face, use raw umber, yellow ochre, vermilion, and a little lamp black with rose madder. A touch of cobalt is very useful in the half tint.

For black cloth use lamp black, cobalt, and rose madder, with burnt sienna added in the shadows. The same colors are used in painting silk, the difference in texture being indicated by the different way the light falls upon silk and cloth. The folds of silk are thinner, and the light consequently sharper.

Magic Lanterns and Dissolving View Apparatus.

By Mr. J. G. Jones.

(Continued from page 114).

ENLARGING LANTERNS.

The construction, so far as optical arrangements go, is similar to the Optical Magic Lantern, but it is a very important matter that the luminant, even if less intense, shall be as nearly a spot as possible, so as to get no false shadows or lines. It must also have the necessary Actinic rays.

The size of the lenses depends very much on the size of the negative from which an enlargement is required. The condenser should be half-an-inch or so larger than the diagonal of the subject of the negative, or if all detail up to the edge of the plate has tc be included, then the measure across the plate must be taken. If a large condenser is used, the front lens must also be large. A quarter plate lens answers for a five-inch condenser; a two inch lens for a six or seven, and a longer focus lens of quite that size or larger, for those above that size.

A gas burner of small argand flame is very good for the purpose; and if a big flame is employed, a very good plan is to place a metal diaphragm in front, so that only half-an-inch area of light is visible; this will be the most intense portion. For lantern purposes, a good light is obtained for private room entertainments, and trials, from a Sugg's sixteen-candle argand gas burner.

MANIPULATION OF LANTERN AND APPARATUS.

The essentials for securing a successful result in lantern demonstration or producing dissolving views is :—

1.—A good and steady light.

2.—All lenses truly set, so that optical axis may be preserved.

3.—The apparatus fixed firmly, so that there is no movement visible on the screen.

4.—That a good pressure is obtained for the gas, proportionable to the number of jets: one, two, or three.

DISSOLVERS AND CURTAIN SHUTTERS.

When it is desired to make one picture fade away and another appear, or change the picture on the screen without shewing a white disc, it is usual to have some arrangement to gradually cover up one front of the picture, and uncover the other, or else lower the light in one lantern, and raise it in the other. For dissolving view effects, no doubt this last method is the best, and most under control as well; for with the system of on and off stop-cocks with bye passes to allow the gas to go to the lantern not in use, two or three lights can be increased or decreased at will, and so the pictures can be raised or lowered, and the effect of dissolving obtained. The curtain shutter rises vertically in front of the slides, and has apertures so that while one picture is being covered, the other is uncovered; this has the effect on the screen of one rolling up while the other is revealed. It is particularly pretty with curtains, or in shewing statuary, and also with many views. The centreing of the discs has to be carefully arranged, and if the illusion of changing seasons or day to night is carried out, great care must be exercised in selecting pictures of the same size, and exactly alike, and then getting them in the tone optical axis of the front. Unless the slides are put in frames or carriers exactly true, and the stages are capable of being adjusted vertically and horizontally, it is not possible to make the same slides exactly register or superimpose at different distances from the screen.

GAS PRESSURE VALVES.

With oxy-hydrogen light, the intensity of illumination increases with the pressure, and as gas bags usually employed in magic lantern entertainments will only stand a limited amount of pressure, gas holders or gas cylinders are employed for permanent entertainments. The cylinders made of steel, are now becoming popular, as the gas can be compressed into them at 120 atmospheres, which will be a pressure of 1800 pounds to the square inch. As one pound to the square inch is the maximum pressure required for ordinary lantern entertainments when the light is going fairly, (and this is represented by a column of water fourteen inches high) it is well to allow the gas to escape from the cylinder, so as to give this pressure. As it is difficult to do it with an ordinary screw valve with lever opening, the new automatic valve invented by Mr. R. Beard, meets the required want; for no matter at what pressure the gas enters the valve, it is only allowed to escape at the pressure at which the valve is set. This is accomplished by means of a spiral spring; and here it may be stated, that the pressure indicated on a water guage or valve, if connected direct with the supply of gas, is *far more* than when connected by a union or T piece with the jet or jets, so that it will record, *while* the lights are on, at their proper adjustment.

PHOTOMETERS.

To arrive at the comparative power of various lights some standard of comparison must be first obtained; and when the lime-light is under examination, this is a somewhat difficult matter, on account of the great disparity between it and any candle or gas flame, and also because of the difference in the colour of the lights. The most approved method of arriving at the relation of one light to another, is to set up in a dark chamber, a box containing a sheet of paper with an oiled spot in the centre; so that when a light shines on it, it will reflect rays from either side. Mirrors are placed on both sides of it, at such an angle that the spot can be seen from a position at right angles to the direction of the rays of light. This box is fitted with wheels, or made to slide along a rule, which is graduated to shew various proportions of light from one to forty. Now, if the standard light is placed on one side of the box, and the light, the intensity of which is required to be known is placed on the other side, and the box moved backwards or forwards until the oiled spot is equally illuminated in both mirrors, the position on the scale will shew the proportion. Say we take a standard candle; best sperm, six to the pound, burning at the rate of 120 grains per hour, place this at one end, and then get an argand burner of gas, or a paraffine duplex or three wick lamp, and adjust them so that when the box is at sixteen on the scale, the illumination of both reflected oil spots is the same, we shall have a sixteen candle standard. If this is placed in the position of the standard candle, and a stronger light is obtained, capable of being adjusted by taps or the wicks, so as to have a definite height of flame, either gas or oil, at a definite place on the scale and producing equally illuminated reflected spots say at three, we shall then have 16 x 3 = 48 candles power. Even this is not sufficient as a standard to test the high pressure. Oxy-hydrogen lime-light, with a scale giving forty times the unit. In some experiments the other day with a fifty candle standard gas burner, it was found that the travelling box got out of range before the lights could be got equal. The results obtained with mixed gas jet and hard lime; oxygen and hydrogen in separate cylinders, supplying the gas through an automatic regulating valve set to twenty-four inches water pressure, were 350 candles, naked light; and about 2,250 candles when passed through four-and-a-quarter inch compound condenser, and an achromatic objective. Although a one hundred candle gas burner is obtainable, it was not accessible for the purpose of these experiments, and the great difference between the colour of the gas and the lime-light, when the latter is so much in excess of the former, leads me to think it would be far better, by means of a blow through jet being supplied at a definite pressure by house gas, and oxygen passing through a regulator at a set pressure, to obtain a low standard lime-light, say ninety candles, which can, with a little care, be adjusted from a lower one, say sixteen candle gas burner. The ninety candle standard would permit of the most powerful lime-light (up to 3,600 candles even) being measured.

ACCESSORY APPARATUS FOR OPTICAL LANTERNS.

Microscope.—When the apparatus is required to project photographs, views, and objects, the size of which can be regulated when being produced as lantern slides, it can be constructed on the best lines for the manufacturer, and convenience in working; but if a natural object has to be exhibited, the apparatus must be subservient to that object. Hence, the optician when called upon to illuminate and project a minute object, such as a part of an insect, a small section of wood, shell, or mineral, has a different, and often difficult task before him. What was comparatively easy with a transparent photograph or painting of three inches diameter, requires considerable thought and arrangement when the object is one-tenth of an inch diameter, and in addition the operator will have to exercise the greatest care. The elements of the apparatus are the same for a microscope as for an optical lantern, viz: the light, the condenser, and the objective; but as is generally known, the smaller the object, the higher the power of projection required; and the higher the power of the lens is, the smaller diameter it has to be, on account of the great curve giving distortion, and consequently, less light passes through. It is thus essential that the light should be very brilliant, and that the condenser or system of condensing should be such as to converge all the light on the size area of the particular object in hand. One naturally looks to the lime-light as the illuminant, and it is found by experience that a double convex lens of about two inches focus, fitted just behind the stage on which the object is placed, is a good means of bringing the cone of rays from the large condenser to the proper area. The important thing however, is to preserve the true optical axis; so that all parts must be rigidly fixed true to the major part of the lantern front, or else be capable of very careful adjustment to the centre. A concave lens is sometimes fitted about three inches from the large condenser to parallelize the rays, so that they may be carried on to the smaller condenser and fully illuminate the whole of it. Ordinary microscopic objectives form good projectors for the lantern, providing they are well corrected for spherical aberration. It will be gathered from the foregoing, that when using various powers, the more control there is over the position of condensers and capability of centring and adjusting the lenses, the better chance there will be of satisfactory results being obtained. Lenses that do not give a true image, or allow a true ray to pass through them, either by themselves or in combination with other lenses, are not suitable for this purpose. Not only must all the light rays be collected, but also, after passing the object and illuminating it, be such as when enlarged and radiated, shall follow the same true path; any deviation in the angle of incidence as it is called, being followed by a similar variation in the angle of refraction, thus producing error of image. To project minute objects of a transparent nature on the screen, well illuminated on a dark back ground, what is known as a spot lens has to be employed. A condenser is placed behind the microscope stage, with a portion of the surface of the side of the lens next the object ground away or covered with a black spot. The light then passes through the convex side of lens, and converges on the object; the light being only intercepted at the centre, which consequently forms a dark back ground. The effect of this illumination is very pleasing, and besides, the structure of many delicate objects stands out in better relief by this arrangement than by direct light. Nichol's prisms can be adopted behind and in front of suitable microscopic objects, so as to polarise the light, and shew the phenomena of color contained in such objects as chemical salts, minerals, horn, hair, various muscles and tissues, &c.

(*To be continued.*)

A Photographic trip to the Western Isles or Hebrides of Scotland.

ROYALTY is not one of the best things for facilitating the movements of an excursionist or sight-seer. Such was the conclusion we came to on our arrival in Glasgow, to commence the above trip: Her Majesty the Queen and suite had just arrived to visit the Exhibition, &c., and most of the streets were blocked. With difficulty we made our way to the docks and at once proceeded to secure cabins on S.S. Claymore, which was to be our "hotel" for the following week.

The day being very unpleasant and wet, no views were taken except one or two of the triumphal arches in Sauchiehall Street before leaving Glasgow. After calling at Greenock, the weather became threatening, and our first night on board found us having a rare good tossing as we sailed round the Mull of Kintyre. Early next morning we arrived at Oban, feeling not quite up to the mark, after the night's experience, consequently only one or two plates were exposed; these being in dull weather. We enjoyed exposing the plates at the breakfast table shortly afterwards much better.

Leaving Oban about 10-30 on Friday morning, we steamed, in beautiful weather, across Loch Lorn, and entering the Sound of Mull, called at Craignure, Salen and Tobermory; all being situated on the Island of Mull. At Salen a novel picture was witnessed by the passengers, namely, taking on board 250 or more sheep, that were rather averse to leaving *terra firma*. Here the camera was fixed, but in consequence of the continual vibration of the boat when in motion, and the short time we had at the majority of places where we called, greatly hindered us from obtaining many views which we might otherwise have had.

Tobermory has, like many other places we called at, plenty of scope for the amateur. There is a fine bay here, affording splendid anchorage for vessels of any tonnage. The ship "Florida" one of the Invincible Spanish Armada is said to have been blown up, not far from here. A few pretty pictures were secured in magnificent weather, one being of the Western Isles Hotel.

From Tobermory we went round the Ardnamurchan Point, towards Eigg; the only part of our trip where we were really in Atlantic waters. After unloading and reloading cargo, which at this and other places chiefly consisted of herrings; and landing a few passengers, we proceeded towards Portree, calling at the following places *en route*, Arisaig, Armadale, Isle Ornsay, Glenelg, Balmacara, Kyleakin and Broadford. The islands of Muck, Eigg and Rum are seen shortly after leaving Tobermory; on the former there is a population of two herdsmen. The scenery during this part of our trip is very fine; many beautiful cascades are seen dashing down the rocks in the distance.

On Saturday morning at 8 o'clock, we found ourselves at Gairloch, a spot well known to all tourists for its very attractive scenery. Views were obtained at this and other places we called at during the day.

The last place at which we touched before reaching Stornaway on the Island of Lewis, the furthermost point of our trip was Lochinver in Sutherland. On entering the bay of Lochinver, you see a group of mountains conspicuous for their conical shape, one being very suitably called the "Sugar Loaf," and is 2,403 feet in height. At this charming place we stayed about two hours, and endeavoured to make the most of our time while here, each party congratulating itself on returning to the boat, of having chosen the prettiest walk. The passengers one and all seemed very sorry to leave here, but the bell sounding, we had to hurry on board; when we, continuing our trip across "the Minch," embracing a sail of about four hours, pass the lighthouse, and enter one of the finest harbours on the west coast, namely Stornaway, the capital of the Island on which it is situated. Here we stayed over Sunday, until Monday morning, obtaining meanwhile some pretty pictures of Lewis Castle and Grounds. At 11 a.m. on Monday, we commenced our return sail, having had a most interesting excursion. E. N. B.

Large Developing Dishes.—To purchase ready-made dishes for the purpose of developing enlargements is costly, and to overcome this difficulty home made trays are often required. If a wood framework can be put together, the bottom may be made from a piece of stout card or millboard, and a coat or two of the white bath enamel paint sold in one pound cans, will make it waterproof.

Mounts.

By Geo. Wheeler.

Read before the Society, Nov. 6th, 1888.

THAT a good photograph deserves a good mount will be readily agreed to, and also that the work should be completed with care and taste. The style in which a picture is presented for inspection, either helps to make it more pleasing to the eye, or disfigures and overshadows the good features it may possess. The mount should impart that quality to the print, which is known by the term "finish," and it fails unless it does this.

There is considerable difference of opinion as to the best style of mount to use. In dealing with the question, the character of the picture and the purpose for which it is intended, gives in some measure an indication of the best method by which to act. For instance, a thick heavy mount would be unsuitable for photographs which are to be inserted in an album consisting of plain leaves of paper. The heavy mount would cause the leaves to be torn and the binding would be endangered. Of any two styles of mounting, one must be better than the other upon one ground or another, and to get at the reason why, and under what conditions preferences should be given, we will run through the various mounts in the market, and briefly express our opinion upon them. The commonest mount of all is the thick card with a narrow margin, with or without a line round, and sometimes having a gold bevel edge. If the picture mounted on it is a portrait, and is to be placed in the family album, in one of the cut-out oval or square spaces with which it is provided, this form of mount is suitable, but for landscapes, and remember, we are landscape artists if anything, this mount is the worst that can be used. The margin is meagre and pinched, and destroys the feeling of repose which should be associated with a monotone landscape. The nearest approach to a photograph is an engraving, and we can realize the miserable appearance an engraving would present if mounted with a narrow edge. Sometimes a dark coloured mount is used, but this only intensifies the misery, and it bears such a strong resemblance to a black marble tombstone that we are half inclined to look for the inscription "Sacred to the memory of," &c. How has this style arisen? Doubtless it has been handed down to us from the professional portraitist, and as we have already said, it is suited to his purposes, as it is intended to receive another mount when it is inserted in the cut-out album, which supplies the necessary relief.

Another style very similar to the foregoing is that form which bears on its narrow margin, close to the edge, a flat line of gold bronze, *a la in memoriam.* Many of my former remarks will apply to this also; but it has another defect in addition. The gold bronze, as it is called, is not gold at all, but a copper alloy which is dusted on in the form of a powder; and it soon turns black if exposed to light, or is touched with the mountant. This does not add to the beauty of the photograph. If the gold bronze extended to the extreme edge, and went under the print, displaying a plain field of gold around, it might be an improvement; especially so, if printed in real gold leaf.

India tint mounts are the best for exhibiting silver prints on. These have ample margins, and are provided with a creamy, or light drab centre, which helps to throw-up the picture that may be placed on it into relief. The quiet, warm, color adds an additional charm, and somewhat imparts harmony to the perhaps cold and black looking photograph. The dead face on the color also contrasts with the glaze on the print, and the broad margin provides a field which does not distract the eye, but induces a feeling of repose. We are inclined to think that a little variety might be added to the tint now in vogue. For instance, why not use a French grey, or Caledonian grey? These and other shades might be employed with effect, if used with judgment; but whatever tint is used, it is of primary importance that it be unobtrusive.

Plate marked mounts are now being advertised as a new fashion in mounts. These have an indentation in the margin in imitation of the mark caused by the edge of the steel plate pressing into the paper on which engravings are printed. This is an imitation, and because it is an imitation, we decidedly object to its use. The mark was not originally added to enhance the beauty of the margin, but simply because it could not very well be avoided, except by making the steel plate cumbersome. On an engraving it is a real mark caused in the working, and we have become accustomed to it, but to put it on photo. mounts is ridiculous. There are quite sufficient dodges in the photographic world, without trying to humbug the public into the belief that our pictures are engravings. Let us stand on our own merits at least.

Cut-out mounts are coming into vogue, especially for enlargements, sometimes even small pictures are framed in this form. We must confess that we like the style for bromides and all prints that have dead surfaces; they seem to require this break in the surface. Ordinary silver and other prints having a glazed surface appear out of place in a cut-out mount; they have a patchy uncouth look about them which is almost indescribable. The India tint mount suits them. Why does the cut-out mount sit so uncomfortably upon them? We are inclined to think that the reason is, because in nature we associate the strongest light with the highest surface, and the hollow with the shade; and when we see the sunken surface of the exhibit as the brightest part, the eye makes an objection, and is not pleased. This form of mount is often seen tinted, French grey or silurian being the prevailing shade. Creams and drabs may also be seen occasionally; these quiet semi-neutral shades are pleasing; they materially improve the general appearance of a group of photographs hung say upon the walls of an exhibition. Although the usual photographic print, whether a silver print or platinotype is black or a cold slate colour, quite as much variety can be obtained in the pictures themselves, as in the tints we have named as suitable for mounts, so that these colours are not out of place. We have been requested to give an opinion as to the most suitable tone to use for a cut-out mount. Certainly some one shade or combination of shades must be better than the others. Which is correct? Which gives harmony? Perhaps the simplest way to answer this question will be to definitely state how we would act had we some prints ready to be dealt with. Suppose that the picture is an ordinary landscape having a general effect of warmth about it, we should use a mount of the same character but stronger in tone, and obtain balance by using a dark or black frame. If the print was a cold black, or dark slate as the pizzighelli platinotype, we should use a French grey mount, and introduce harmony by a gold frame.

Before leaving this subject of mounts, we would like to enter a protest against the florid and heavy decorations used on photographic mounts intended to stand on mantlepieces and sideboards. Many of these are hand-painted and artistic in a sense, but the ornament frequently overwhelms the picture or portrait which it is supposed to embellish, and sins against true art. A light spray or any decoration which would occupy a secondary position could not be objected to, and would give a pleasant relief to the photograph. Many photographic albums with perforated leaves for the reception of portraits are also guilty of gross outrages in this respect. The primary and special cause of the book coming into existance, is that it may form a receptacle or mount for the better display of photographs, but not for the purpose of exhibiting coloured scraps. Most decidedly we object to the photographs taking the place of second fiddle.

Glass Stoppers.—Refractory glass stoppers are often a source of annoyance. They are particularly troublesome when in bottles containing solutions of soda or potash, and frequently cause strong expressions of opinion. All this may be saved, by treating the offending stopper with a coating of paraffin wax, which is a very cheap substance.

The Manchester Amateur Photographic Society.

Ordinary Monthly Meeting held at the Athenæum, Princess Street, on Tuesday, July 10th, 1888. The President in the chair.

The Rev. R. T. Bradley, of Knutsford, and Mr. A. F. Wakeling, of Hulme, were elected members.

Announcements were made respecting an Exhibition of Photographs held in October, at the Art Gallery, Oldham, and of the Photographic Convention at Birmingham.

The Leaders of the following Rambles gave reports :—Arley, Mr. James Davenport; Matlock, Mr. A. L. Bostock; Chester, Mr. J. G. Jones and Mr. J. A. Furnivel; and Alderley (cyclists) Mr. Wm. Stanley. The arrangements made for the Rambles to Clapham, Rostherne, Tabley, and Peover were announced. An extra ramble to Shrewsbury under the leadership of the President was arranged for.

Mr. J. A. Furnivel exhibited a new improved shutter for giving slow, timed, and instantaneous exposures. A series of cheap single lenses, and Photos taken by them, were shown by Mr. S. F. Flower.

Samples—Eastman's Transferotypes on paper, opal and glass, were exhibited by the Secretary, who also described the method of of using them. A sample of Byks Hydrokinone was laid on the table, and a discussion on the merits of Hydrokinone as a developer ensued.

A very neat double gravity shutter made by Mr. J Greenwood, was shown at the conversazione.

Monthly Meeting held August 14th, 1888, at the Manchester Athenæum. Vice-President Mr. S. F. Flower in the chair. Mr W. A. Boughey was elected a member.

Reports of the following rambles were given by the respective leaders :—Peover, (cyclists) Mr. J. Macnamara; Clapham, Mr. S. Flower; and Rostherne and Tabley, Mr. J. Davenport. Arrangements for the rambles to Haddon Hall, Millers Dale, and the Valley of the Irwell, were announced.

A paper on " dry plate making for young amateurs " was read by Mr. John Jones, and a vote of thanks was accorded to him. Pickard's exposure meter was exhibited and explained by the Secretary, who also exhibited an improved combined flap and roller blind shutter. The improvement consists of an automatic spring to hold the flap up or down as required.

Monthly Meeting held September 11th, 1888, at the Manchester Athenæum, the President in the chair—Messrs. R. R. Kirley and W. H. Shirley were elected members. A Report of the ramble to the Valley of the Irwell was given by Mr. Geo. Wheeler. Mr. S. D. Mc.Kellen exhibited and described the movements in his New Patent Detective Camera. A paper on the Optical Lantern was read by Mr. J. G Jones, and a vote of thanks was given to him. A Clockwork arrangement for timing instantaneous shutters was exhibited and described by the Secretary.

Monthly Meeting held October 9th, 1888, at the Manchester Athenæum, the President in the chair. Mr. R. Warmisham, of Eccles, was elected a member.

Reports were presented of the last rambles of the Season to the Bollin Valley and to Worsley. The chairman mentioned that the Council were arranging for an exhibition of members' work in January. Mr. J. T. Chapman exhibited Eastman's "Kodak" detective cameras. Mr. J. G. Jones gave a lantern exhibition, and showed over two hundred slides, the work of members.

Monthly Meeting held November 6th, 1888, at the Athenæum, the Rev. H. J. Palmer, M.A., in the chair. The following were elected members :—Messrs. F. W. Burton, Thos. Clark, G. H. Dean, R. Edwards, J. W. Hadfield, H. P. Hill, H. J. Kay, F. G. Moore, A. M. Pearson, Joseph Poole, S. H. Rhodes, and J. H. Shorrocks.

Chairman announced the arrangements for the Exhibition in January.

Mr. Geo. Wheeler read a paper on "Mounting Photographs."

Mr. Bellsmith of the Eastman Company gave an address on the Company's specialities, including the Permanent Bromide Paper, American Stripping Films, and the Kodak Detective Camera, and exhibited a Kodak with prints and negatives.

Monthly Meeting held December 11th, 1888, at the Manchester Athenæum, the President in the Chair.

The Rev. T. Bruster, and Mr. Chas. Macbeth were elected members of the Society.

A discussion on Printing Processess took place. The following gentlemen dealt with the different processes and exhibited sample prints :—Mr. T. Morley Brook, Platinotype; Mr. J. Davenport, Ready Sensitized Silver Paper; Mr. S. F. Flower, Marion's New Bromide; Mr. H. Smith, Enamelled Silver, and Transferotype; Mr. J. W. Wade, Combination Printing; Mr. E. T. Whitelow, Home Sensitized Silver Paper; Mr. J. Whitham, Pizzighelli's New Platinotype; Mr. C. H. Wolff, Obernetter Chloride Paper.

Correspondence.

OLD MANCHESTER AND SALFORD.

To the Editor of the *Photographic Record.*

Dear Mr. Editor,—I was somewhat grieved on my last visit to Manchester to see from the window of the railway carriage in which I was journeying citywards, that the group of old buildings formerly known as Gibraltar, is at last in process of demolition. Grimy and dilapidated though they were, there was still much of the picturesque about those old houses, and there was doubtless some historic interest to connect them with the past of Manchester. May I take this disappearance of another venerable block of buildings from our city, as the text, upon which to reiterate a practical suggestion for the members of our Society.

We should do a good work, in my opinion, were we to make a systematic endeavour during the coming year, to preserve a photographic record of the condition of the old buildings, and picturesque nooks and corners of Manchester, Salford, and the immediate neighbourhood. It was the sight of these tottering old houses, just outside the Victoria station, which induced me, four years ago, to suggest this, among the other good photographic works, to which our Society might usefully devote some of its energy. And now that these ancient tenements are no longer in a state to "make a picture," I desire to suggest to Manchester Amateurs that they may well bestir themselves to obtain photographic memorials of other similar antiquities of the city and its surroundings, to be preserved in a collected form among our treasured archives.

Yours, &c.,

December 28th, 1888. H. J. Palmer.

KERSAL HALL AND CELL.

To The Editor of the *Photographic Record.*

Dear Sir,—In your last issue a letter was inserted asking for particulars of Kersal Hall; I am not able to give the information desired, but think that the following extract from Mr. A. Rimmer's articles descriptive of Summer rambles around Manchester, in the *Manchester Guardian* may prove interesting to those who took part in the ramble concerning which the enquiries were made.

"Agecroft Bridge is very picturesqe, and a stileway leads to a footpath that runs parallel to the right bank of the Irwell. If we cross the bridge and turn to the right we soon reach Kersall Hall, which stands in gardens not far removed from the road-side. It is a black-and-white house, and very shapely in its outline, though only of moderate proportions, and it would seem to have been but little altered since its erection. Close to this and a little nearer Manchester is Kersal Cell. This was a seat of the Byrom family, and the early home of John Byrom, the poet and stenographer. His father was in high standing in Manchester, and he received his education at Charter House, removing to Trinity College afterwards. His talent for verse was great, and he contributed some excellent pieces to the *Spectator*. The pastoral of "Colin and Phœbe,;' which was composed in his twenty-third year, was one of the most popular compositions in the language; but he is now known best through one of his hymns, for he wrote "Christians, awake."

Yours,
XYZ

Our Wide Angle Lens.

Enlarging without a Condenser.—At a meeting of the Devon and Cornwall camera club, Major Barrington-Baker explained his system of enlarging without a condenser as follows—"He stated that the apparatus for enlarging from a half-plate negative was very expensive, the price varying from £10 to £14. This was chiefly on account of the great cost of the condenser. His, as shown, consisted of a wooden packing case made fairly light-tight, an old tin pail with a hole in the bottom as a chimney, a duplex lamp with a large opal globe, and a camera in front with lens, the whole apparatus, without camera and lens, costing only a few shillings. A table showing distance required from negative to lens, or board, times of exposure for different diameters of enlargements, &c., was used as a mean of focussing, a scale being marked on the base board of the camera. A negative was inserted, and the lamp set for an enlargement of six diameters, or from a half-length cabinet portrait, to a head and shoulders on a sheet of paper measuring fifteen by twelve inches. A sheet of Ilford rapid rough bromide paper was then attached to the board by drawing pins, and an exposure given of two minutes and twenty seconds; the lens being a carte-de-visite of six-inch focus, working at *f*/4. The paper was removed and developed with ferrous oxalate in the usual way, and the picture came up rapidly.

Starch.—That the contact of partially decomposed organic substances with a photograph tends to rapid fading is shown, by the well-known fact that starch paste if used after it has become sour, will cause prints to fade very quickly. If used for mounting when in this condition, the marks of the brush on the back of the prints are reproduced as streaks of fading on the photograph in a very striking way.

Question Box.

Error in Exposure.—Can a plate which has been placed in the developer, and found to have not been exposed, be washed and used again?

Ans.—It can be used again, but only imperfect results, not worth the trouble, would be obtained.

Exposure of Lantern Plates.—Given two lantern plates—one exposed 2 feet from a gas flame, and the other 6 feet from the same flame; both being taken from the same negative—would there be any difference in the result, providing a proportionate time is allowed for each?—*(i. e.)* the one at 6 feet having nine times the exposure of the one at 2 feet.

Ans.—Much depends on the negative. If of medium density, there would be but little difference. A dense negative would give the best result at the shorter distance, and a thin one at the longer.

Mountant.—What is a good mountant for prints?

Ans.—Starch paste is generally used, but some object to it becaused it saturates the prints with too much moisture, causing them to stretch unduly, and the mounts, if at all thin, to curl and cockle. The quality known as Glenfield is the best for photographic purposes. It should be used fresh, and the addition of a little moist sugar will improve it.

The following is a good gelatine mountant:—

Photographic Gelatine...	2 oz.
Cold water	20 oz.
Methylated Spirits	10 oz.

First soak the gelatine in the water till softened; then put them into a bottle, and place the bottle in a saucepan containing water. Put the saucepan on the fire, and the gelatine will dissolve. Now add the methylated spirit in successive small quantities, stirring well between each dose until the cloudiness produced by the spirit disappears. It may then be poured into jam pots and allowed to set. When wanted for use, simply stand the pot in hot water over or by the fire, while you are getting the prints ready, and when the solution is melted, mount quickly.

Mounting.—I have a photograph in sections,—

1 What is the best mountant?

2 How should I proceed to prevent cockling where pieced?

Ans.—1, See preceding answer. 2, Use a stout board for the mount. When applying the mountant do not stretch the print. After the edges have been laid carefully together, lay a piece over the joining and rub down gently with the hand.

Starch.—Should starch be used hot or cold?

Ans.—Neither, use it warm. If too hot, it deadens the face of the print, and if cold it congeals and works lumpy.

Regulating Valves.—Can the compressed gases be used for lanterns without regulating valves, and if not, what are the best valves to use and their price?

Ans.—The gas can be used direct from the cylinder without regulating valves, so long as the taps at jet are kept fully open. The best valves are Oakley and Beard's, London. Price: large size, three guineas; small size, thirty shillings.

Mounting Obernetter Paper.—What is the best method of mounting the obernetter paper.

Ans.—Attach by a stiff mountant applied to the edge only; or a cut out mount may be used; it preserves the enamelled surface from scratches.

Diaphragms.—I have a lens, 14 inch focus. Which is the best and most correct way of making stops for it. Will the same size stops do for a 7 inch lens?

Ans.—Too indefinite a query. Secretary promised to answer it fuller particulars were supplied.

Sale and Exchange.

(Our Sale and Exchange columns are open to subscribers free; to non-subscribers a charge of 4d. will be made up to 12 words, and ½d. per word extra.

Wide Angle Lens Wanted; a Wray or Optimus, half plate. E. Ashman, Knoll Bank, Higher Broughton.

On Sale, Mahogany Camera, 12 x 12, screw focussing, single slide and screen, 28 inch range of focus; would make capital enlarging camera, a bargain for 15/-. Massive polished oak Studio stand, all movements, cheap at 45/-, worth treble. A. L. Bostock, Eagle Mills, Manchester.

Burnisher, 10 inch, with spirit lamp, complete, what offers. B, 46 King Street West.

Camera, 5 x 4, Scott, six double backs, with case complete, condition equal to new—cheap. Meta, 46 King Street West.

On Sale, a Kershaw's Shutter; fit Ross Rapid Symetrical or Dalmeyers Rectilear, 10 x 8 lens—perfect, 15 per cent. off list. Pyro, 46 King Street West.

All *business* communications to be addressed to the Hon. Sec., Mr. F. W. Parrott, 41 Eagle Street, C.-on-M., Manchester.

Items for the Sale and Exchange Column, Correspondence, Question Box &c., should be addressed to the Editor, Mr. George Wheeler, 46 King Street West, Manchester.

THE
PHOTOGRAPHIC RECORD
THE ORGAN OF THE
MANCHESTER AMATEUR PHOTOGRAPHIC SOCIETY.

No. 7 APRIL. 1889.

CONTENTS

Page
General Notes 153
President's Address 135
Combination Printing 157
Hydroquinone... 159
Enlarging on Bromide Paper ... 165
Annual Dinner 170
Page
Photo. Survey of Manchstr & Salford 172
Rambles—Bollin Valley 173
,, Lower Peover ... 174
Correspondence 175
The Question Box 175
Sale and Exchange 176

General Notes.

With pleasure, we again report further successes by our Mr. J. W. Wade. He has been awarded the first prize in "The Amateur Photographer" Competition for lantern slides, at the Crystal Palace. There were over sixty competitors. He also received the bronze medal for lantern slides, at the Keighley Exhibition.

◆

We have to record that the first Annual Dinner has been held by our Society. Photographers are sometimes joked about their dry plates and dark rooms, but our members resolved to have a new light upon the subject, and practice a little social retouching by way of a change. Many capital pictures were produced over that dinner; not negatives, but real positives, full of heart, and we believe the effects will be permanent.

◆

We are taking another step forward in providing new apparatus for the use of members. The year was started by the purchase of a first-class oxy-hydrogen lantern, and now this is to be supplemented with an enlarging lantern which is being specially constructed to order. It is to be fitted with 11 inch condensers which are being presented to the Society by a member whose generosity has previously laid us under deep obligations. The value of this gift will be seen when we say that a pair of condensers of the size named is usually quoted at £6–10–0 in the price lists. When the apparatus is ready, members can enlarge to their heart's content from negatives of considerable size. What with the lanterns and slides, the library, and the new enlarging lantern it will pay an amateur photographer to become a member of our Society.

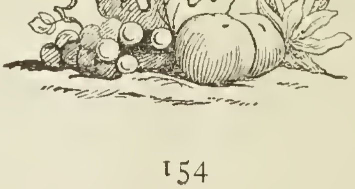
General Notes.

The success or otherwise of the photographic survey of Manchester and Salford will now depend upon the members of our Society. A scheme, which will be found in this number of the *Record*, has been prepared, and it has been officially adopted. It now remains for the members in general to give it the final *coup de grace* by sending in their names to Mr. Bostock, Eagle Mills, Hunt Street, Oxford Street, who has been appointed the organizing secretary. If there exists a public spirit among the amateur photographers of Manchester; if they can see beyond the narrow limits of self, and we believe they can, the project will soon take a practical shape and produce fruit. The primary and most important thing is to *send in the names* without delay.

The Editor of the *Manchester City News* considered the subject of such interest to the public in general, that he copied Mr. Palmer's letter which was printed in our last issue, and reprinted it in the *City News*.

◆

Our Society competed in class 19 at the late Midland Counties' Exhibition. Less than a week previous to the date for sending in pictures, three of our members—Messrs. Davenport, Smith, and Wade, were requested to prepare and forward six pictures in competition with other societies. Under considerable difficulties this was done, and in a few days we learned that our Society had tied with the Birkenhead Society for the prize offered. It would appear that five judges were appointed, but as one of them was President of the Birkenhead Society (Mr. Paul Lange) he was unfitted to adjudicate on the matter, and properly retired. The remaining four judges were divided two and two as to which Society's pictures were deserving of the prize, and they seem to have got into a hopeless dilemma. Under the circumstances, the proper thing would have been to send each Society a prize; but no, they could not see their way, so went deeper into the mire. In their helpless condition they fell into a very informal groove, for they called in the assistance of a lady—the wife of the Secretary of the Exhibition to decide the point for them. Now, this doubtless estimable lady was not an appointed judge at all, and she may have been a better judge of "the arts of pies, custards and tarts" than photographic pictures. However, this lady, and not the judges, decided that the prize should go to Birkenhead; and a certificate of merit was awarded to the Manchester Society. Very properly our Society has resented such treatment and declines to receive the certificate.



The President's Address.

IN commencing our Society's new year it is customary for the President to give an address; mine will not be long, for I shall limit myself to as few words as possible.

I must first thank you very much for the position of honour in which you have thought fit to place me for the year upon which we are just entering, and trust that this position may be as ably filled as it has been by my predecessor, Mr. Palmer. My hope is that with the hearty co-operation of both officers and council, and last, but not least, of the members in general, I may have the satisfaction at the end of the year of handing over this position to my successor, with the feeling that our Society is in, if not the same, a more prosperous and flourishing condition.

I must now congratulate you on the present state of our Society, as evidenced both by the report issued at the last meeting, as to the number of members and the healthy state of the exchequer; and also by the excellent work which we saw a few weeks ago hung around us on the walls, and shown on the screen. I may say, without fear of contradiction, that it was the best exhibition of photographic work which has taken place in our city, and shows an advance over any previous show we have attempted. Not the least astonishing fact in connection with this latter point is the remarkable success of many of our new members—novices in the art—who have, apparently, almost without any effort, attained a proficiency, which most of us who are older practitioners have only acquired by slow and tedious experience, and after many failures. As I look back to the time when I first commenced photography, I can see my store shelves filled with piles of what ought to have been good negatives, but from which I never succeeded in getting a good, or even passable print; so they were gradually consigned to the dust heap. But I consider failures are necessary to success, and we can often learn more from our failures than our successes. Let no beginner be disheartened, should the ordinary lot of the tyro happen to him or her.

With the good quality of the existing dry plates, photography has become easy to acquire, and if only ordinary care be exercised in both exposure and development, very few failures need result.

To take photographs for pleasure is certainly attractive, and there is no wonder at the thousands (now that so little trouble is necessary) commencing the photographic art. Fitted out with a good camera, lens, and other apparatus, the amateur of to-day is able to make a complete photographic record of any trip or journey he may take, that will be looked at in after years with pleasure. He will be able to re-visit all the charming nooks and corners, renew many a pleasant friendship, and pass many a fleeting hour with enjoyment.

I may here mention our out-door rambles, which ought to be encouraged. I have always found them enjoyable and instructive. Ideas are exchanged as to the best points of view from which to take the photograph, then the exposure, the best way to develop the plate, the best toning bath, and other ways and means are always thoroughly discussed, so that the best picture is invariably obtained. It has been said that too many join in these rambles, but I never found it so. I believe the highest number was on the occasion of our visit to Kersal Cell last year, when we had 71 cameras with us: well, there was room for 71 more.

Then, what can be more delightful when our summer holidays come round than taking our paraphernalia, with a stock of plates, to seek out the loveliest counties in this dear old England for a thorough rest from the worries and cares of our monotonous business routine, transferring to our dark slides the choicest "bits" we find as we ramble over hills and up valleys, and along the pretty country lanes.

There is one ramble I should like to mention, and hope a similar one will be arranged for the coming season, and that is, a trip to the Isle of Man, but not on the same day as last year, for my experiences of the Liverpool landing stage on the Saturday before the Bank Holiday last August will certainly never be forgotten.

The time wanes, and reminds me that I have already gone further than I had intended with this, to me, pleasant chat with you to-night, and I conclude by heartily wishing the Manchester Amateur Photographic Society every success during the coming year.

Composition.—Sometimes you may have a good subject, and the composition fairly good, but wanting in some little detail; such as in a sea-piece, where you may have some vacant space on the water. In this case a yacht or two often supply the required detail. If something of this sort is wanting, the only way is to focus your view, look around and see if there is a possible chance of anything coming past where you want it, then wait patiently for it before you expose. The same may be said of a land view. In this case a horse and cart, a carriage, cattle, or any people who may be passing, will nearly always supply the little details required to complete a subject. Of course you must be careful to select appropriate details, and it must be remembered that "the best effects have very often to be watched and waited for."

A. Fisher, A.S.A.

Combination Printing.

By Mr. J. W. Wade.

Read before the Society, December 10th, 1888.

HAVING been asked to say a few words on combination printing, I will commence by making an assertion. To obtain a successful combination print, the secret lies in the skill with which it is executed, rather than the method of doing it; therefore, a few words only is neccessary to describe it, leaving it with the members to exercise their artistic skill. I take combination printing to mean the use of more than one negative in producing a certain picture. It may be questioned whether this is legitimate photography, but as I have remarked in a former paper, if our aim is to produce what may be called fancy pictures, then we can use as many negatives and as many dodges as we wish, but if we desire to produce a photograph of a certain place, then we must use one negative only, with perhaps an exception in the case of clouds, and this brings me in the first place to the most common of all kinds of double printing; indeed, cloud printing is so well known that were it not for my instructions to aim low, I should pass it over without further remark.

It is acknowledged by all that the use of a suitable cloud negative is an improvement to most pictures, and this is the *modus operandi*:—we first print the necessary landscape, shading the sky portion if it is thin; remove the negative, putting in its place a suitable cloud negative; covering up the landscape already printed with brown paper, torn to the shape of the sky-line. The most important thing to be noticed being that the clouds must be lighted from the same side as the landscape, and not to let the cloud prints over the landscape, except where there are trees and other dark objects above the horizon.

The printing in of foregrounds and figures is more difficult of management, but it is done in a similar manner. The portion to be printed must be darker than that part on which it is printed, or in the case of a large object, the background immediately behind may be stopped out altogether. We have, perhaps, a picture of an equally lighted landscape, where it is impossible to get a good foreground as it is; it is a flat uninteresting subject, but print in a bold tree with overhanging branches, and we see at once how much the picture is improved.(A negative was passed round showing an artist and easel with foreground, the remainder being blocked out, also a negative of tree and foreground). My method of blocking out is this—I take a fine pen, charged with thick Indian ink, and follow the outline on the film side, which must be varnished, the remainder being covered with black paper or varnish. Sometimes, we take a lake view on a dull day, and the water comes out without any detail, then a negative of water taken instantaneously on a bright day, may be used in the same way as a cloud negative.

We have here a picture of a lake (print passed round) where it was impossible to get further back, so as to include any of the near bank, so I have used the rushes from another negative to give an indication of land, where the spectator is stood, which if possible, should be shown. The ways of improving pictures in this manner are innumerable, and will often suggest themselves.

Statuary and such like objects show best with a black background and to do this we print a light positive on albumenized paper, then with a sharp penknife, on glass cut round the outline, and expose to light, and you have a mask similar to the old silhouette. Another print is taken from the negative, and printed to the usual depth. Place the mask carefully on this, against a clean piece of glass and expose until the background is quite black.

A flat picture is sometimes improved by first vignetting, then placing a mask slightly larger than the picture, and exposing a short time to light, care to be taken, however, not to get this tint much darker than the half tones in the photograph.

For making Christmas and birthday cards, combination printing comes in useful, we have here a lake scene, a mask shaped like a palette is placed between the print and the negative, and on the white portion thus obtained, another picture is printed with a vignetting glass, covering up all the rest of the picture. Here is one of a more difficult kind, it is produced thus: we take a background of tinted paper and two or more pieces of white paper (in this case it is a circle and a rectangle) these with a few grasses and flowers are arranged on the tinted paper and a negative taken. Print masks and positive as before described, then with one mask cover up the print with the exception of the rectangle, and with a suitable negative fill this space and repeat the process with the circle.

In making these remarks I may say that I am no advocate for wholesale combination printing, indeed, I do not practice it on one picture in fifty (excepting of course clouds). I endeavour, if possible, to get a perfect negative, if not, doctor it in the best way I can.

In conclusion, I will sum up in a motto of two words, which should always be bright in the minds of all those who follow the photographic art, especially combination printing—study nature.

* * *

Hydroquinone.

By the Editor.

IN the last number of *The Record* we gave a short paper on this subject, and endeavoured to describe the action of the various chemicals which are introduced in compounding it, with the idea of simplifying its use by beginners, so that they might be induced to undertake experiments with it. The proportions were compiled from such sources as were within reach at the time, but further experience has proved that there are better formula to be obtained, and we now wish to bring a selection of these before your notice. In our endeavour to get the best proportion of ingredients we have made up almost a dozen forms of this developer, mostly for use with bromide paper, and the end of the matter is that we have a profound respect for the hydroquinone developer, and believe it has a great future before it. The complaint that it is slow need not exist, for it can be made to act with as great rapidity as pyro-ammonia, and it will produce density to almost any extent. Besides this, it has the great advantage that neither hands nor dishes are stained; and as for cost, although some forms of it go beyond pyro in this respect, they need not be used, for there are others that give as good results, and entail less expense than the ordinary developers. In connection with copying purposes, where negatives from plans, maps, engravings, or copies of old photographs are required, its value cannot be over-estimated, for it has the peculiarity of rendering fine detail without blocking up the fine lines, which the use of pyro frequently produces. Other good qualities might be enumerated, such as its portability for travelling purposes, quick printing properties, &c., which we hope our members will put to a practical test during the coming season.

As a rule, plates which are intended to be treated with this developer should have a slightly longer exposure than usual given to them. The reason we advocate this is because there is a tendency to represent the shadows by too much clear glass in the negative, which is not always a good feature; besides, the danger of obtaining a thin monotonous negative from over-exposure, is not near so great as when pyro ammonia or pyro-soda is used. If double or treble exposure has been given, a good regularly graded negative may be obtained if a little judgment is used, for the developer is readily controlled.

The following analysis of proportions is taken from various published formula, and the comments which are appended are the result of actual trials. Three of them are specially compiled for developing bromide papers, three others for negatives, and one for chloride transparencies, but they are nearly all interchangeable by slight rearrangement of chemicals.

HYDROQUINONE.

Proportion of ingredients to one ounce of Water.

CHEMICALS.	A. Brom. Prints.	B Brom. Prints.	C. Brom. Prints.	D. Neg.	E. Neg.	F. Neg.	G. Lant. Trans.
HYDROQUINONE.........	2 grs	4 grs	1 gr	6 grs	1 gr	4 grs	2 grs
SODIUM SULPHITE ...	16 grs	24 grs	4 grs	36 grs	2 grs	24 grs	16 grs
CITRIC ACID	...	1½ grs	...	...	...	1½ grs	...
POTASSIUM BROMIDE..	½ gr	¾ grs	...	..	...	¾ gr	...
AMMONIUM BROMIDE	...	...	...	...	¼ gr	...	$\frac{1}{10}$ gr
SODIUM HYDRATE......	4 grs	...	...	...	¾ gr	4 grs	...
POTASSIUM HYDRATE	...	4½ grs	...	...	...	...	...
SODIUM CARBONATE...	...	...	sat.sol.	sat.sol.	...	...	...
AMMONIUM CARB'N'TE	...	...	...	...	...	...	10 grs

A. This is a really good developer, and one we can recommend, especially for bromide paper. It will be observed that only half the quantity of hydroquinone is used as compared with B and F; there is no citric acid, and only a small quantity of bromide is introduced as a restrainer. It produces a rich velvety black on bromide paper, and may be used again repeatedly. No clearing solution is required. A full exposure must be given, and when developing the print, the image will begin to appear in one minute and be complete in 2½ or 3 minutes. It also acts well for negatives and lantern plates. The author gives the formula for use as one solution, but this cannot be a good method, because the ingredients must contend with, and weaken each other, besides such arrangement allows of no control whatever. We have made it up in two solutions, with satisfactory results, as follows:—Say 20 ounces of developer are required.

NO. 1.

Hydroquinone..	40 grs.
Sodium Sulphite	160 grs.
Water, to make	10 oz.

NO. 2.

Sodium Sulphite	160 grs.
Sodium Hydrate	80 grs.
Potassium Bromide...	10 grs.
Water, to make	10 oz.

The hydroquinone must be dissolved in 5 ounces of *hot* water by briskly shaking; then dissolve the 160 grs. sodium sulphite in another 3 ounces of hot water, and add it to the hydroquinone without delay. Now make the whole up to 10 ounces with cold water. No. 2 may be placed in a bottle with 10 ounces of cold water and allowed to dissolve. Use equal quantities of each.

B. It will be seen that the relative proportions of this developer bear a strong resemblance to that given as F; in fact, it is the same, except that caustic, or hydrate potash is used in place of caustic soda. The author of it is a well known prize winner with platinotype pictures, and his opinion is, that with this developer he can produce a better toned print than any platinotype he has made in the past. This is saying a great deal, for he has had a considerable experience. The developer is strong in its constituents, containing double the quantity of hydroquinone compared with A. It is also powerfully restrained by citric acid, in addition to bromide. We are inclined to say that there is no need for this waste of strength, and that similar results can be obtained with A by using caustic potash in place of caustic soda as the energizer. Although the developer under consideration is so strong, its action is but slow, but we suppose speed must be considered a secondary requirement compared with the certainty of obtaining a really good picture. It acts well with Ilford Slow, Morgan & Kidd's and Eastman papers. The formula is as follows:—

No. 1.

Hydroquinone...	160 grs.
Sodium Sulphite	2 oz.
Citric Acid	60 grs.
Potassium Bromide...	30 grs.
Water, to...	20 oz.

No. 2.

Potassium Hydrate	1 oz.
Water, to...	10 oz.

To make 2 ounces developer take—

No. 1	1 oz.
No. 2	80 minims.
Water, to make	2 oz.

Give double the length of exposure to what would be required if an iron developer was used. Ten minutes should elapse before the image begins to appear, then add a few more drops of No. 2 to complete.

C. The American gentleman who offers this formula to the photographic world is quite enthusiastic upon its merits. He describes the general color of the picture as "a beautiful sepia-brown and black," and adds that the tones are fully equal, and often superior to those that can be obtained by ferrous-oxalate. We have tried the developer, with the result that we are not aglow over it. There is not much of the Yankee about it, for it lacks smartness. We have heard that the American atmosphere, contrasted with ours has much to do with the difference in quality of pictures, and we begin to believe there is something in it. This developer may act rightly over the water, but it is much too slow for this country. At least that is the conclusion we came to after a fair trial; but it may act more reasonably in other hands, so we give the details for compounding it. Not only is the solution weak in hydroquinone (one grain to the ounce), but the energizer is not the strongest alkaline agent that can be used, so that plenty of patience may be required.

NO. 1.

Hydroquinone...	120 grs.
Sulphite of Soda	1 oz.
Water	8 oz.

NO. 2.

Carbonate of Soda, or Washing Soda: a saturated solution.

Make up No. 1 by dissolving the sulphite of soda in the water; then add the hydroquinone and shake briskly till all is dissolved.

To make up 2 ounces of developer take—

No. 1 Solution...	1 dram.
No. 2 ,, ...	1 dram.
Water, to make in all	2 oz.

If the development is prolonged, or double, or treble strength of developing solution is used, a little sulphite of soda must be added to keep the developer clear. Prints must be fully exposed, and the whites will remain purer when the development is not forced.

D. This is a peculiar developer, and well worthy of a trial. We have obtained satisfactory results with it, and in use it is simplicity itself. To judge by the table of proportions it appears wasteful, six grains of hydroquinone being in each ounce, but it is the very reverse of this in practice, for the developer and the energizer are kept quite separate when being used, and consequently they can be returned to the stock bottle to be used again repeatedly in the future. The author is an American professional photographer, who says that it is used in his establishment in preference to pyro, which has been discarded. In his opinion it is "regular in results, rapid in development, and economical."

The two solutions are made up as follows:—

Hydroquinone.

No. 1.

Hydroquinone	120 grs.
Sulphite of Soda	1 oz.
Water...	10 oz.

No. 2.

Washing Soda	a saturated solution.
Sulphite of Soda...	½ oz.
Water	10 oz.

When preparing to develop, No. 1 and 2 must not be mixed, but place the negative in a dish and pour a quantity of No. 1 on it; no measurement is needed. After it has remained in the solution one minute, take the negative or print out, and pour the solution back into No. 1 bottle Now, either wash out the empty bath with clean water, or use another dish, and place the negative in it. Pour a quantity of No. 2 upon it. If the plate has been rightly exposed, the image will soon make an appearance, and gain density quickly. When finished, pour the solution back again into No. 2 bottle for future use. There is no bromide in this, and it will rarely be required, as its tendency, with this developer, is to produce a hard negative. It will be observed that the chemicals used in it are exactly the same as those used in C, which we have described as a weak developer. The difference in their action is caused by the concentration of strength in the former, while in the latter they are reduced by water until inertia is almost produced. We have tried the developer under notice with bromide paper, and were pleased with its performance; the prints having a platinotype look about them. Both solutions will keep well, and the portable form in which they can be kept may make this developer invaluable for use when away from home; at least, it is worth bearing in mind. We may here add a hint about making up solutions of washing soda. It is best to buy the soda in the lump, which should afterwards be broken, and the inside portion used. By this plan the crystal will be obtained fresh, and free from impurities with which the outside may have been in contact.

E. This developer greatly resembles C, except that caustic soda is used as the alkali in place of washing soda. The former is the more powerful energizer, but the quantity given, ¾ of a grain to the ounce, is not sufficient, and even this is restrained. The whole of the constituents are too weak, unless time is of no value, and patience is an unlimited quantity. The proportions we have named are given for negatives, but the author of it says, "For bromide paper, opals, and lantern plates it is an excellent developer, and for these it may be used half the above strength." For a very much over-exposed negative it would doubtless prove useful, but otherwise it is too feeble.

F. If the previous developer lacks strength, this may be described as running to the other extreme. It is recommended by Thomas's for use with their Pall-Mall plate. There is a great resemblance between it and the one already noticed as F, and many of the remarks attached to the latter, will apply to this. Certainly it is very powerful, and the publishers of it say that it will develop an instantaneous exposure of $\frac{1}{100}$ part of a second, using stop *f*8, made in sunlight in December, from an open view. Stock solutions may be compounded as follows:—

No. 1.

Hydroquinone	80 grs.
Sodium Sulphite	1 oz.
Citric Acid...	30 grs.
Potassium Bromide	15 grs.
Water, to make...	10 oz.

No. 2.

Sodium Hydrate	80 gr.
Water, to make...	10 oz.

Use equal parts of each solution.

G. Mr. A. Cowen, a gentleman of experience in the manufacture and working of chloride plates is responsible for this developer, and it is specially compiled for lantern plates. The proportions are very similar to A, which we have spoken of as a capital developer for bromide prints, and we can equally recommend this formula for producing nice clean transparencies. Other energizers, such as carbonate of soda or carbonate of potassium, may be used in place of ammonium carbonate, but Mr. C. prefers the latter for color, although a greenish surface tint is produced, but it is not seen by transmitted light. After fixing, the color is a deep red, which ultimately dries as a rich warm neutral tint. Ten per cent. solutions may be made as follows:—

No. 1.

Hydroquinone	40 grs.
Sulphite of Soda	320 grs.
Bromide of Ammonia	2 grs.
Water, to make...	10 oz.

No. 2.

Carbonate of Ammonia	200 grs.
Water, to make...	10 oz.

Use equal quantities of each.

To gain the fullest density rarely takes more than two minutes, and the same solution may be used for successive plates, each of which, if something like rightly exposed, will develop beautifully clear. If a stronger alkali is used, the development will be shortened, and colder tones produced.

In making chloride transparencies, a restrainer must be used or the plate will fog, as the action of hydroquinone is much more energetic upon chloride than upon bromide plates; very little will do. It may also be noted that chloride of sodium, which is often used as a restrainer for chloride plates, is useless in this developer, but the bromides of ammonia, or potash, may always be relied on to perform their work correctly.

Enlarging on Bromide Paper.

MR. T. MORLEY BROOK.

Read before the Society, February 12th, 1889.

TO the amateur there is perhaps no branch of photography more attractive and fascinating during the winter months, than enlarging on bromide papers.

Now that the paper is of such uniform sensitiveness, and so evenly coated, it is not a very difficult matter to make enlargements; and with care, cleanliness, and a little practice, it may be reduced almost to a certainty.

What a source of pleasure and satisfaction there is in making a picture that can be seen without the aid of a microscope, and yet not have to carry a huge camera afield that would be a load for a horse. There is now no necessity to so burden ourselves, for by the aid of bromide paper, we can produce pictures up to two feet in diameter from a $\frac{1}{4}$ plate negative. A light camera has many advantages; it can be carried long distances without undue effort, and the first expense for apparatus and materials is much less than for larger sizes. The entire outfit takes up but little room, and that is a great consideration to many. The small negatives also are more easily stored, and are not so liable to get damaged or broken as are larger sizes; and again, lantern slides can be so easily made by contact printing; thus doing away with the troublesome process of reducing in the camera. A $\frac{1}{4}$-plate negative, if perfectly sharp to the edges, can be enlarged up to 24 x 17; the inartistic sharpness of the direct print being advantageously softened down.

In taking photographs with a view to enlarging, great care must be taken to get them as sharp as possible all over, making use of a magnifying glass in focussing, for although a very slight degree of fuzziness may not show, or be a disadvantage in a small direct print, yet when this is enlarged, say ten or a dozen times, it becomes very prominent and a great eyesore; therefore let me impress on you to get the negative absolutely sharp and crisp all over. This is essential for the production of really good work, and it is easily done by making use of a stop small enough, during exposure. But even instantaneous views taken with the full aperture can be enlarged, if the lens used is large enough to cover the plate well without stopping down.

The best kind of negative to enlarge from is one full of detail, yet clear in the shadows, and not too dense in the high lights. This latter is very important, for enlarging the picture so exaggerates the contrast, that a very vigorous negative (such as is best for platinotype printing) enlarges hard and chalky, which to my mind is a very great fault and much less easily remedied than want of density. The best way to produce good negatives for this process, is to give a full exposure and commence development with a very weak developer, and use this until all the detail you wish for is out; then stop further development of detail with citrate of ammonia; slightly rinse in water and then go on with development, or rather, I should say, intensifying with the normal developer until sufficient density is got. The advantage of using the citrate of ammonia is that by so doing you can get all the detail you want without blocking up the high lights, or fogging the shadows, and thus obtain clear, quick printing negatives.

The essential apparatus required, are some means of uniformly lighting the negative, and an object so placed as to throw the image on to a flat board or upright easel, to which the sensitive paper can be fixed.

In working by daylight, which I prefer, as in my opinion it gives the brightest pictures, ordinary or fairly strong negatives may be used; whereas, in working by artificial light, thin negatives, free from yellow stain, are necessary if the exposure is not to be inordinately prolonged, causing the resulting picture to lack brilliancy. An important requisite is a room with only one window, preferably facing north, with a light tight shutter which completely blocks up the window; in the shutter, an aperture a little larger than the negative to be enlarged from is cut. A large reflector of silvered glass, or board covered with fine white paper, is placed outside the window, at such an angle as to form a luminous background to every part of the negative, when viewed from the position of the lens. Inside the room a camera is fixed, from which the ground glass has been removed; the negative being placed at the back of the camera, in a carrier provided for that purpose. The camera is now placed close to the aperture in the shutter, and a cloth placed around it and tacked to the shutter so as to exclude all light except that coming through the lens.

Just a word or two about the best lens to use. If the negative to be enlarged from is a single portrait, a portrait combination will be the most suitable. The back lens of the combination being placed next the negative, otherwise the definition and flatness of field will not be so good. There will be no necessity to use a stop in the lens, as the area of sharpness when using full aperture will be quite enough for this subject. But if the subject be a landscape, or more especially if an architectural subject, it would be as well to use the lens that was employed to take the negative. If time of exposure is not of importance, a single landscape lens will answer the purpose; but it is necessary to use a rather small stop, and the exposure is consequently much prolonged. The convex surface of the lens must be placed next the negative. The best all round lens to use, however, is one of the rapid rectilinear or symmetrical type; the shorter the focus the better, so long as it will fully cover the plate with open aperture. The largest possible aperture should be used, taking great care that the enlarged image is sufficiently sharp at the edges. When the lens is much stopped down, there is a great loss of light, and hence a loss of brilliancy in the finished work. For artificial light a portrait lens is essential, as the rapid types are altogether too slow.

The easel or board to hold the sensitive paper must be faced with fine white paper or cardboard. When the light is strong, or the enlargement is not to be many times the size of the negative, and the lens is working with open aperture, the focus can be easily got; but the case is very different if the lens has to be much stopped down to get marginal sharpness. In this case, the best way will be to cut out the centre of the easel, and fit a square of ground glass in it, so that the ground surface corresponds with the position the paper will hold. But as comparatively few amateurs are so happily situated as to be able to utilize daylight for enlarging purposes, enlarging by the aid of the optical lantern will mostly approve itself to those who adopt this method of producing pictures. In using the optical lantern, either mineral oil or lime-light must be used, and the ordinary lantern only requires a slight alteration to make it as good as that made expressly for the purpose of enlarging. If it has 4½ inch condensors, all that is necessary is an extra sliding tube to lengthen the range of focus, and a suitable carrier to hold the negative. In the absence of a lantern, the enthusiast may make use of any box large enough to hold the light. Cut an aperture in one side of this, and fix two squares of ground glass, a little larger than the negative, to diffuse the lights; for three or four lights may be used in this mode of enlarging, with advantage. I must, however, say, that though enlarging by this plan is one of the most simple, at the same time it is much the slowest, as the light is very much reduced in passing through the ground glass. With a negative of fair density an exposure of fifteen to twenty minutes will be necessary. It is therefore much the better plan to use a condenser of sufficient size to fully cover the negative, as by so doing, the light is so greatly increased as to reduce the exposure to at least one twentieth.

Having now got everything in order, we will proceed to make our picture. Place the negative that is to be enlarged from, upside down in the carrier, with the film side next the object. Now move the easel backward or forward until you have got roughly the size of picture required, and focus carefully by racking the lens in or out until the image on the board is perfectly sharp. Remember that the greater the enlargement, the further the easel will be from the lens, and the nearer the lens to negative. After focussing with open aperture, put in the stop intended to be used, and focus again, for placing a stop in the lens throws the image on the screen slightly out of focus ; very slightly it may be, but still quite sufficient to spoil the print.

Now cap the lens with a cap having an orange glass top on it, and pin a small piece of sensitive paper on the board, and give a trial exposure, the length of which depends on the density of the negative, the size of the enlargement, and the intensity of the light. As some little guide, I may say that using the Society's oil lantern, and enlarging a quarter plate thin negative to 12 inch x 9 inch, about 45 seconds exposure would be somewhere near right, using open aperture.

The sensitive paper is now fixed on the board with six or eight pins, taking care that the film side is towards the lens. There need not be any mistake about which is the sensitive side, for it is always rolled film side inwards. It is much better to get the exposure exactly, then to try to suit the developer to the exposure; even if it is necessary to make three or four trials to do so.

I have been making a series of experiments with hydroquinone as a developer for bromide paper, as I think it would be such a great advantage to have only one developer for negatives, lantern slides and positives on paper. As yet, however, I have not been able to get such plucky results with it, as with the ferrous oxalate.

I have got very fair results with the following :—

Hydroquinone	4 grs.
Sulphite Soda... . .	20 ,,
Hydrate Soda	4 to 5 ,,
Bromide Potassium ...	1 gr.

To each ounce of water.

But I think by far the best results will be got with ferrous oxalate. It is very necessary that the solutions of oxalate of potash, and sulphate of iron are thoroughly saturated. To ensure this, boiling water is used to dissolve the salts. It is not necessary to weigh the ingredients, but a portion of the crystals should collect at the bottom of the bottles on cooling. To each of these solutions add one drachm of citric acid, and test with blue litmus paper, which should turn slightly red.

Supposing that our picture has been exposed, we shall now require two flat dishes, large enough to hold the paper; those with glass bottoms are the best, but are rather expensive. They may be made of block tin, painted inside with brunswick black or japan, or better still, of wood, and painted with enamel paint; these are much cheaper, and with careful usage will last for years.

For developing take

6 oz. potash solution
1½ ,, iron ,, and make up to
10 ,, with water.

The water is a sufficient restrainer if the exposure has been correct, but if there is any doubt about that, it will be safer to add a few drops of a ten per cent. solution of bromide of potassium. Slight under exposure can be corrected by using a stronger developer. I have to thank Mr. Bellsmith of the Eastman Company, for the wrinkle of using water in the developer, and I find it to act most admirably, causing it to flow evenly over the paper, which it will only do with difficulty without this addition. Now take one of the trays, which should be marked and kept solely for developing and clearing, fill it with water, and place the exposed paper in it, face down and leave till limp. Now turn it over, and pour off the water, and as evenly as possible flow on the developer, rocking the dish, until the picture is fully developed. Bear in mind the shadows gain a little strength in fixing, and make allowance for this.

When development is complete, pour off the developer, and wash with a clearing solution (1 drachm acetic acid to 20 ounces of water) for five minutes; pour off, and apply a second, and a third dose, lifting the print occasionally to allow the acid to get quite through the paper, to clear out all the iron.

Now wash well in running water till all the acid is washed out, and fix for ten to fifteen minutes in a solution of hyposulphite of soda 8 ounces, to water 20 ounces. Wash in running water for four or five hours, and pin to a line by two corners to dry.

Local development can be made by washing the developer off and applying it with a soft camel hair brush or mop to the parts requiring strengthening.

In conclusion, don't use dirty dishes or measures; don't use much bromide or the color will not be so bright; don't use the same developer for more than one large print; don't use the fixing bath for more than one batch of prints; don't guess at the quantities in mixing the developer; don't expose your full sheet without first making a trial; don't be discouraged if you don't succeed at first, but try again, and yet again, until you do.

The Annual Dinner.

THE first Annual Dinner of the Society was held at the Masonic Hall, Cooper Street, on the evening of Saturday, March 16th; forty-five members and friends being present. After an excellent dinner, a very pleasant and sociable evening was passed as a Smoking Concert. Toasts were proposed, and the following programme was gone through, the musical portion being exceptionally well rendered, especially the banjo duets, which were the novelty of the entertainment.

PROGRAMME:

Toast	"The Queen"	By the President
Piano Solo		Mr. Megson
Song	"The Skipper"	Mr. J. Tate
Song	"An Evening Song"	Mr. Farley
Violin Solo	"Norma"	Mr. Stanley
Song	"The Outpost"	Mr. J. Wilcock
Toast	"Success to our Society"	Mr. Stanley
Duet	"Battle Eve,"	Messr. Farley & Tait
Banjo Duet		Messrs. Schofield & Barlow
Song	"Death of Nelson"	Mr. Pickford
Humourous Song		Mr. Megson
Song	"Love's Request"	Mr. Farley
Song	"Anchored"	Mr. Tait
Toast	"The President"	Mr. Gilmore
Humourous Song		Mr. Steventon
Song	"Mignonette"	Mr. Pickford
Banjo Duet		Messrs. Schofield & Barlow
Song	"Romany Lass"	Mr. J. Wilcock
Duet	"Excelsior"	Messrs. L. Farley & J. Tate
Toast	"Kindred Societies"	The President
Toast	"Our Visitors"	
Humourous Song		Mr. Burgess

Mr. Stanley in proposing "Success to our Society," said that although he had been connected with various societies for the past fifteen years, none had prospered like the Manchester Amateur Photographic Society. This being a social evening, was not the time to go into a history of the Society, yet he would say that the Society arose through a dissatisfaction with the existing state of Photographic matters in the City, and he attributed the Society's unparalleled success to the want which it supplied. He was glad that the artistic side of photography had received prominent attention in the proceedings of the Society, and he had to acknowledge his indebtedness, and that what improvement he had made in his art tastes was due to this fact. He hoped the Society would continue to disseminate information as it had done in the past and wished success and good fortune to the Society and its members.

Mr Davenport in replying on behalf of the Society, thanked the gentlemen present most sincerely and kindly for the toast they had just given.

Mr. Gilmore in proposing "The President" said he did not consider that a president was entitled to a vote of thanks because he *simply* did his *duty*, but when he put his whole heart and soul into the matter, and conducted the affairs of a meeting in a thorough-going business manner, and kindly and cheerfully, and in his heartiest way accorded the members the benefit of his experience in photographic matters, as our present chief officer had done, he (Mr. Gilmore) considered that they had got a fully competent President who was worthy of all honour, and to the heartiest vote of thanks.

Mr. Flower in replying returned his hearty thanks, and considered that the president of a Society was helpless unless he had the support of a good council. Like the pyro in a developer which was of no use without the ammonia, the president could not act without the council, and the council required the support of the members, just as bromide is necessary to the ammonia. They were all needed to produce a successful result. He would try to do his part, like the pyro, to make a prosperous Society.

The President said that as there were three Photographic Societies in Manchester, and numerous photo societies all over the world, he had pleasure in giving them another toast—" Kindred Societies."

Mr. Broughton responded on behalf of " The Manchester Photographic Society."

Mr. Steventon replied on behalf of the Manchester Camera Club, which, he said, was constituted on a different basis to the other photographic societies in Manchester, being a limited number of persons meeting for the discussion of photographic matters in a social manner. He thanked the meeting and considered that the more societies formed, the better it was for amateur photography and for furthering the objects they had in view. He considered that every amateur photographer ought to be a member of some society.

Mr. Davenport replied on behalf of the youngest society in the neighbourhood, the Altrincham Amateur Photographic Society. Though only four months old, it was a sturdy little shrub, already aspiring to an exhibition and soiree which would take place on March 28th. He had no doubt that the Society would make progress.

The toast of " Our Visitors," who had cheered the meeting and made it harmonious with their music, was proposed by the President. This was responded to by Mr. Farley, who hoped that the gentlemen present had derived as much pleasure from the performance as it had given him and others pleasure to come and assist.

A Photographic Survey of Manchester & Salford.

By Mr. Geo. Wheeler.

Read before the Society, March 12th, 1889.

AT the request of your Council I beg to offer a few suggestions as to the best method of organizing ourselves, for the purpose of acting upon the recommendation contained in Mr. Palmer's letter, printed in the last number of the *Record*, which invited our Society to take in hand the work of photographing Old Manchester and Salford. I shall be glad to receive your opinions upon the subject, so that we may unitedly bring the project to a successful issue. Dealing with the scheme as a whole, I think that it should be broadened, and that in place of restricting ourselves to the few remains of Old Manchester and Salford we should include any portion of the City and neighbouring Borough which our members may be disposed to make pictures of. With the exception of the centre of the City, the other portions are in a constant state of transition, and in a few years hence, the people who take our places will have but a vague notion of the general character of our streets and buildings as they are to-day, unless we, or some other society, come to the rescue.

I need not dwell upon the importance of the proposed work further than to say, that it embraces a record or history of the district as it is at the present time; a history, not written in words, but in pictures, and that in the great unknown future, its value will be beyond estimation.

Now, as to the lines upon which I think we ought to go. The scheme should be carried out by a Central Committee, with Sub-Committees for districts, which should be composed of such members of the Society as may be willing to take an active part in the work, and will offer their co-operation. The work of the Central Committee should be to decide what negatives shall be accepted; to print and mount the photographs, and report progress from time to time to the Council. The Sub-Committees may be formed in any district where a number of members reside near each other, and who are willing to work together. They may meet occasionally at one of the members' houses to formulate their plans. They would photograph the district in their charge, each member developing his own negatives and submitting them to the members of the Sub-Committee for inspection. This would produce many pleasant social evenings, and the criticisms would be beneficial to all. The negatives should be forwarded, after being properly labelled, to the Central Committee for prints to be taken from them, after which they ought to be returned to the owner.

All the prints should be either bromides, platinotypes, or one of the permanent processes. Silver prints being perishable, should not be used for the purpose. Size of negatives should not be less than 5 x 4, if the prints are to be produced by contact printing. It is almost an impossibility to make a picture from a ¼ plate negative unless enlargement is resorted to.

Two prints should be taken from each negative, and as soon as a sufficient number has been accumulated, two substantially bound albums should be obtained, and the prints inserted. One of these should be presented to the Manchester Free Library on behalf of this Society, and the other should be retained for the benefit of our own members. All prints should be distinctly labelled with the title of the subject, the date the negative was taken, and the name of the photographer.

The only cost that need come against the Society would be the purchase of the paper on which the prints are made, and the albums.

It should be an understood condition in carrying out the scheme, that it should entail no extra work whatever upon the general Secretary of the Society.

There is nothing that need interfere with the success of this work. We are able to accomplish it; it is of public utility, such as will command the respect of those outside the photographic world; and in addition it will provide a centre of interest for many of our members who are willing to take an active part in the practical application of photography to such a useful purpose as that now before us.

Rambles.

BOLLIN VALLEY.

Thirteen members turned out for this ramble and about 60 plates were exposed. Like the cyclists' run to Lower Peover, our afternoon was not quite as good photographically as we could have wished.

Though the ramble was set down for the Bollin Valley, yet owing to the showery weather, and the consequently wet ground, our party, immediately on leaving Peel Causeway Station, struck off for the higher land between the river and Hale Barns village. We thought it better to leave the river for a more suitable day.

Our first object of attack was the old cottage near Bank Hall. This we accomplished successfully, though the cottage in nowise suffered from it; and we then had a few innocent shots at a keeper's cottage that we passed on our way to Butt's Clough. This is a spot where a few attractive little pictures may be obtained, and several plates were exposed at two rustic foot bridges, and the and leading to the river. I may here mention that several of our party shared the hospitality of one of our worthy members resident close by, and owner of most of the land from which our pictures were taken. Unfortunately for some of us, our party had just at that time divided itself into two divisions, and in the thickly planted Clough a few had passed on, unseen.

Lenses were also uncapped at the Hale Barns Unitarian Chapel; and after some of the members had attempted to obtain a picture at the bend of a lane near Rossmill farm, we wended our way homewards by the river side; but the unanimous opinion was that with such a light—or want of light—as we then had, we should be wasting time and plates if we exposed anywhere in the valley. Accordingly we packed up, and our ramble ended with a regret that the day had not been longer and brighter.

JOHN MACNAMARA.

LOWER PEOVER.—Cyclists.

Eight members and friends joined in this run, and probably the number would have been much more had the day been more enticing. We found it, however, exceedingly pleasant as a cycling day, the roads being dry, and in good order (thanks to our local road surveyor, they generally are) and the temperature just right.

Our appointed meet was at Sale, and we passed through Altrincham, Bowdon, and Knutsford, arriving at our destination about 4-45. After stabling our steeds, we prepared for work; and longed for tea. A few plates were exposed, and then came the welcome message from hostess Bell that tea was ready. This was done full justice to, and was thoroughly enjoyed by all our party. We tried for a few more pictures but the light was bad, and we contented ourselves with a few shots at the exceedingly picturesque and unique church, and the churchyard and mill. Other pictures there were, but not to be taken then, and we were reminded by a fall of rain that our best plan would be to pack up and go. This we accordingly did, and about half-past seven we were on our way. We took a different route, viz. by the "Smoker Inn" at Plumbley, and through Over Tabley.

We had not gone far before the rain again started, and did not cease while we were in the saddle. Notwithstanding this, we sped merrily along, well pleased with our spin, which had afforded us great pleasure, even though we had not found the afternoon all we could wish photographically.

The length of our journey varied from 24 to 42 miles, according to the position of our homes.

JOHN MACNAMARA.

Correspondence.

OLD MANCHESTER AND SALFORD.

To the Editor of *The Photographic Record.*

Dear Sir,—The letter of our late President in your last issue will at least, I am sure, meet with approbation from all our members, and the scheme suggested therein should have their earnest and active support, so that the relics remaining of former generations shall be photographically recorded before their entire obliteration.

As the scheme, at a recent meeting, was brought forward in a practical form, and only now requires the necessary assistance from our members to put it into action this coming season, I would urge on all who can help the Society in this manner to communicate at once with the gentlemen into whose hands is left the working out of Mr. Palmer's suggestion.

It will be a pleaure to me to devote a part of my leisure to the object in question, and trust that before the year ends, the "memorial album" will have been presented to our municipality for the use of all our fellow-citzens, and thus shew that our Society can render some slight service to the city whose name it bears.

Yours, &c.,

FERRO FERRI.

Question Box.

Gelatino-Chloride Paper.—What is the best toning formula for Gelatino-Chloride Paper, and how best finished and mounted?

Ans.—The following is Mr. Steventon's method:—

TONING SOLUTION.

Ammonium Sulpho-cyanide	1 oz.
Water	2 oz.

Dissolve in glass stoppered bottle, and label *Poison.* To tone 1 sheet of paper, take of above 4 drams, add 10 ounces water, and 2 grains gold. This should be mixed fifteen minutes before using, and can only be used when new. Tone, fix in hypo, and immerse in alum solution, 1 ounce alum to 20 ounces water. Wash well between each operation, in the order named. Tone 2 prints at a time, or uneven toning in some cases is the result.

TO MOUNT.—Squeegee on perfectly clean plate glass, and when thoroughly dry, use ordinary drawing paper for backing purposes. Cut this $\frac{1}{2}$ inch larger than print, and use starch paste as mountant; smear back of print with the mountant, and also the drawing paper. Squeegee well into contact with print, and allow it to *thoroughly dry.* Then take a sharp knife and cut round $\frac{1}{4}$ inch from the edge of print, through both backing and print, and strip from the glass with a good strong pull. Be particular that the print is perfectly dry before backing and stripping.

Another gentleman says :—Use Mawson's India rubber solution for mounting Obernetter prints. Coat with solution before stripping from glass; when dry, strip and trim in the usual way. Coat the mount with the solution and allow to dry. When both are quite dry press into close contact.

Best Book for beginner.—Which is the best book on Photography for a beginner, in the M. A. P. S. library?

Ans.—"Burton's Modern Photography" we think the best, because it is written in simple language, and presumes that the reader knows nothing of the art to begin with. It is very reliable.

Washing Bromide Prints.—What length of time is required in washing bromide prints after fixing?

Ans.—If kept gently moving in running water, one hour should be sufficient. They must not be knocked about and creased, or the surface will be marked.

Sale and Exchange.

(Our Sale and Exchange columns are open to subscribers free; to non-subscribers a charge of 4d. will be made up to 12 words, and ½d. per word extra.

Wanted—A Wray's half-plate Rapid Rectilinear Lens, wide angle, about 6 inch focus. Address—Bromide, 46 King Street West, Manchester.

On Sale, four 10 x 8 printing frames, new; 1/6 each. Set of new 3/6 Glass Scales for 2/6. W. N., 8 Earl Street, Lower Broughton.

On Sale, Meagher's ¼ plate Camera, three double dark slides, leather bellows; and Ross' wide angle Lens with revolving stops. £2 5s. the lot. Apply Decor, 46 King Street West, Manchester.

To be disposed of—Twoeight feet bags, oxygen and hydrogen; pressure boards with safety straps; iron retort with dead weight valve; wash bottle and fittings—have not been in use two seasons; price £5. Apply W. Stanley, 21 Howard Street, Eccles New Road, Salford.

Wanted—Good quarter plate Camera with reversing back and long extension bellows, 9½ or 10 inches at least, also double backs for the same. Apply to T. M. Brook, Withington.

All *business* communications to be addressed to the Hon. Sec., Mr. F. W. PARROTT, 41 Eagle Street, C.-on-M., Manchester.

Items for the Sale and Exchange Column, Correspondence, Question Box &c., should be addressed to the Editor, Mr. GEORGE WHEELER, 46 King Street West, Manchester.

THE

PHOTOGRAPHIC RECORD

THE ORGAN OF THE

MANCHESTER AMATEUR PHOTOGRAPHIC SOCIETY.

No. 8 JULY. 1889.

CONTENTS

Page
General Notes 177
A Few Points for Beginners ... 179
Water-Developing Dry Plates ... 181
Magic Lanterns and Dissolving View Apparatus... ... 182
Rambles—Alderley 186
,, Valley of the Irwell... 186
Rambles—Holford Hall and Lower Peover 190
,, Lymm and Warburton 191
Manchester Amateur Photographic Society—Monthly Meetings 193
Our Wide Angle Lens... ... 195
The Question Box 197

General Notes.

After a long and valuable service as honorary secretary, our respected co-worker Mr. Parrott has resigned his office, owing to pressure of business. Mr. R. O. Gilmore has kindly taken the vacant post.

* * *

Our society now embraces over 300 members, all "good men and true." The exact number is 315. This is after a thorough weeding out of all uncertainties, and independent of the nominations for next meeting.

* * *

The gentlemen who have the photographic survey in hand have held a consultation as to districts, &c. Several of the sub-committees have also met, but most of them would welcome an accession of strength. Mr. Bostock, the secretary, is still open to receive the names of helpers.

* * *

The Paris Exhibition contains an extensive photographic section, and will well repay a visit. The bulk of the exhibits are portraits, and of necessity the work of professionals, but they are really beautiful. Landscapes and enlargements are rather limited in number, though there is an abundance of transparencies, some of which are real gems. The Brothers Henry exhibit an interesting collection of astronomical photographs, for which they are so celebrated, and they also present some curious examples of instantaneous work, produced for scientific purposes. Apparatus in plenty is shown in glass cases; it is nearly all foreign in aspect and size.

A new monthly magazine specially catering for two subsections of the photographic world has appeared under the title of *The Optical Magic Lantern Journal and Photographic Enlarger*. It describes itself as "a magazine of popular science for the lecture-room and the domestic circle." This title is somewhat cumbersome, and might be improved by dropping the word "magic," which is a misnomer. We think its advent will be hailed with pleasure by all lanternists. The contents of the first number are interesting, pithy, and well concentrated upon the subjects with which it specially deals. It is worthy of a prosperous career. A son of Mr. J. Traill Taylor is the editor.

◆

One thing is certain, though we have never been informed of the fact, the editor or sub-editor of *Photography* is a dyspeptic. We have suspected this was the case some time, but after reading the three-column "growl" on the Salford Photographic Exhibition we were confirmed in our diagnosis. To read the terms with which he belabours the poor unfortunate pictures is enough to make one's blood curdle. He uses such language as "fearful specimens," "hopelessly bad," "wretched enlargements," "awfully stiff," "most awful," and scores of similarly elegant phrases. Professionals and amateurs alike get tarred with the same brush, and no quarter is shown. Yet he knew, and stated it before the spasm developed, that the exhibition was hurried together in a few days, not giving the exhibitors a fair chance. The journal referred to is comparatively young, but it is the very perfection of "crabbed age," with its "staff complete." We enjoy the magazine, but we wish the editor would consult a physician before his case is beyond recovery.

◆

Some time back our members were requested to contribute photographic scraps for presentation to the district hospitals. Two books were prepared, and have been noticed by the editor of the *Manchester City News* in the following terms:—"The members of the Manchester Amateur Photographic Society have conceived the happy and kindly idea of preparing two photographic albums or scrap-books for the recreative enjoyment of the inmates of the Manchester Infirmary and the Salford Royal Hospital. Few presents could be much more acceptable to the ailing or convalescent patients, as the books can be examined without any great strain upon the mind, and those chosen by the Amateur Photographers are of a varied and agreeable character." If our members only knew the number of individuals who contributed, they would blush.

A Few Points for Beginners.

By a Member of the M.A.P.S.

USE a plate of a medium degree of sensitiveness for general landscape work—for instance, "Ilford Ordinary." The most reliable results will be got from it, and there will be less liability to fog and frill. Extra rapid plates require extra care and knowledge.

Let your focus be thoroughly sharp, for many fail at this point. Use a focussing glass—Mr. Chapman sells a very handy little instrument for one shilling. Look for some small or fine object in the scene, such as the lace curtain in a cottage window, leadlights in a church, or lettering on a signboard, and focus that absolutely correct.

Don't use the smallest stop, for it has a tendency to destroy the brilliancy of the view. Use the largest stop that will give sharpness in the margins of the focussing screen.

In exposing, remember that over-exposure is easier controlled in development than under-exposure, but aim for correct exposure if it can be got at.

Stick to one formula in developing until you can get good results from it. Then you may try your hand with the others—too numerous to mention. If the view is an open landscape with weak contrasts, such as a range of hills, increase the strength of all the ingredients and develop quickly. When the contrasts are strong reduce the quantity of pyro.

The following is a good simple developer, which will give satisfaction, and which contains no superfluous ingredients. It will give a nice clear negative without much trouble:—

A

Sulphite of Soda	6 ounces
Pyrogallic Acid	1 ounce
Water	16 ounces

B

Carbonate of Soda or Washing Soda..	2 ounces
Water	8 ounces

To develop a half plate negative, take two drams of A and two drams of B, and add water to make up to two ounces.

If there is any reason to suspect over-exposure, or even for a full-timed exposure, modify the developer as follows:—To the quantity of water necessary to cover the plate, say two ounces, add two drams pyro solution (A); but of soda solution (B) take but one-fourth the quantity indicated, or one-half dram. Flow the plate with this developer, keep the tray rocking, and watch for results for a minute or two. If nothing appears, add one-half dram more of soda solution, and continue as before. This amount of soda, unless the exposure be *quite* short, will ordinarily be sufficient to produce a negative with good density, plenty of detail, and very clear shadows. If for any cause it should prove insufficient, continue to add soda, a little at a time, until the full amount (two drams) has been used. More than this proportion will be apt to cause fog.

If the full amount of soda be used according to formula, the image will most likely flash out almost immediately, and rapidly begin to darken all over. The mischief will be done so quickly that there will be no time for the use of a restrainer. For this reason I begin as above indicated and proceed slowly, using full amount of pyro, as a good degree of density is desirable in a landscape negative, and being very careful in the use of the alkali.

In case of very great over-exposure, commence by soaking the plate in pyro solution alone for a few minutes, then cautiously add soda, a few drops at a time, until the plate is developed.

For shutter exposures, use full amount of alkali, or even if very much undertimed, soak a few minutes in alkali and then add pyro.

Fix thoroughly in hyposulphite of soda solution, about one ounce of hypo to five of water. Wash well.

Another arrangement of the foregoing developer (one for which I am indebted to Mr. Wheeler's "Exposure Register") may be made up as follows :—

Washing Soda	2 ounces
Sulphite of Soda	2 ounces
Water	1 pint

Only the one solution is required. It keeps well, and is quickly and cheaply made. To make up two ounces of developer, take three or four grains of dry pyro, according to the subject, and add half ounce of the solution and 1½ ounce of water. This may be modified or strengthened as I have already described. There is always security in keeping the pyro dry, and, after a little experience in weighing, it is easy to form a good idea of the quantity required without the necessity of going to that trouble. A bone salt spoon, which must be kept for that special purpose and scrupulously clean, is very useful for measuring the pyro.

Dense landscape negatives may be printed in direct sunlight. Thin negatives are best printed with two or more thicknesses of tissue paper over the frame. Print *very* dark ; indeed, with many negatives, until the deep shadows are slightly bronzed. After printing, keep in the dark until ready to tone.

Trim to size before toning. When ready to tone, wash the prints for ten minutes or so in three or four changes of water, adding to the last enough of a solution of carbonate of soda to render the water distinctly alkaline. This will make the prints tone quicker and more evenly, and, I think, improves the colour.

For toning I have had the greatest success and least trouble with the following borax bath :—Take two ounces of borax to four quarts of water. This bath is very simple, and will keep indefinitely. The quantity is ample for two dozen half-plate prints.

Just before toning add to this bath about one ounce of a solution of chloride of gold (chloride of gold 15 grains, water 7½ ounces).

Place the prints in this bath until the operation is completed, turning quite often, and not allowing the sheets to stick together, that they may tone evenly.

When they have acquired the desired colour, or when by transmitted light the original red colour of the print has disappeared, except in the deepest shadows, remove from the bath and place in a basin of fresh water, there to remain until all are done. Wash the toned prints once, then transfer to a fixing bath, composed of four ounces of hyposulphite of soda to one quart of water. Leave in this bath for about twenty minutes, occasionally moving them about ; then remove to fresh water and wash for three or four hours.

Mount the prints while still damp with good flour or starch paste.

In cold weather, set the jar containing the toning solution in a warm place several hours before using, if possible. The toning process proceeds much more rapidly if the bath be slightly warm.

In all operations, both developing and toning, be scrupulously clean, especially as regards hyposulphite of soda. The least trace of this most useful agent in any developing or toning solution will ruin the whole.

Water - Developing Dry Plates.—This novelty comes from abroad, and ought to prove very handy for tourists. After exposure the plates are simply placed in clean cold water, which causes the development to commence at once. The back of the plates are coated with the chemicals containing the developing agent, so that both sides of the glass are utilised. Immediately the dried chemicals touch the water they begin to dissolve and mix with the clear water flowing over the face of the film, reducing the silver and revealing the latent image. We have tried these plates and were pleased with their performance. They develop very nicely, producing a well graded and unusually soft negative, and with a minimum of trouble. The portable form in which the chemicals are given ought to create a good demand by our holiday seekers.

Magic Lanterns and Dissolving View Apparatus.

By Mr. J. G. Jones.

(Continued from page 142).

The Aphengescope or Opaque Lantern.—There are many interesting objects through which light cannot be passed, and which it is often desirable to show on the screen. The great difficulty is to obtain sufficient light. The object having to be placed at an angle to the light, only a very small portion of it is available for the objective, for it passes off at a similar angle to that which reaches the object; and no definition is obtained on the screen, unless the projecting lens is parallel to the object. If a powerful light could be concentrated on a concave or special parabolic reflector of large size, at such an angle as to reflect back parallel and horizontal rays, then an objective could be inserted in a hole in the centre of the mirror, and would project the fully illuminated object on to the screen with proper definition. It is the difficulty of constructing a mirror that shall receive the rays at one angle and reflect them at another, that prevents this being done commercially. As, however, this principle of receiving and distributing rays has been utilized in the refracting prisms and lenses of lighthouses, it is probable that some day it will be applied to reflectors. The Newtonian telescope, or rather Sir Wm. Herschel's, has elements embracing this idea. Even with the ordinary opaque lantern or aphengescope, some good results can be obtained, and photographs (C.-de-V. and cabinet heads) can be shown to a moderate size; but, better still, the face and works of a watch and sections of an orange and objects of that character can be exhibited. As an illustration of practical application, an enlarged apparatus has been constructed for one of the dental hospitals which shows the plaster casts taken from patients' mouths, and the various items in connection with natural and artificial teeth on the screen; so that a number of pupils can see at one time; thus saving considerable time to the lecturer, besides the confusion consequent on individual inspection.

The Kaleidoscope in the toy form is known to everyone, but its lantern form is not nearly sufficiently used, nor its capabilites fully developed. Probably the reason is, that the first difficulty of illumination has been a trouble to those who have tried it in a cursory manner, but to any one who will take a little trouble, the result fully repays the time spent in mastering the manipulation. It is almost a necessity to have a *slow* motion to adjust the light vertically, and from right to left, for everything depends on getting the exact position that gives an accurate even illumination of all reflections. For this the light must be *above* the centre; the light passing, if central, in a direct line through the third of the field in which the reflections are not placed, and therefore showing brighter than that which is reflected. As an object, one of the best and really pretty, is a light coloured chromotrope of the cushion pattern. Having a centre, and many revolving circles, it can be made to reflect in the Kaleidoscope two, four, six or eight times, each design revolving on its centre with the pretty cushion, and other shapes as the slide is pushed to or from the centre of the apparatus. Transparent designs of definite forms in almost endless variety can be put in the lantern stage; including such objects as keys, feathers, straws, grasses; or living objects in water, in glass troughs or boxes, and the grotesque movements produced, or pretty design shown on the screen, will give so much pleasure to the audience, that the lanternist will be fully repaid for taking the trouble to master the manipulation.

THE POLARISCOPE.—The phenomena of polarized light is somewhat complex, but the effects produced with the instrument are at once pleasing to the eye, and greatly assist in bringing home to the audience the fundamental principles of the science of light. The light can be polarized and analysed by passing through two Nichol's prisms; but, as large pieces of the spar from which the prisms are made are very costly, it is usual to produce the polarisation from thin plates of clear white glass; ten or twelve being placed one above the other, inside a metal box with blacked interior, and set at an angle to the condensor and front of about 56 degrees.

A Nichol's prism or tourmaline must be used as an analyser; the object being placed between the condensor and front and at a suitable distance from the prism according to size of object. Large objects, such as mica, minerals, crystallized salts, &c., are placed near the polarising bundle and are sharply focussed on the screen, but crystals such as quartz, calcite, nitre, topaz, &c., are placed close to the analyser, and require a lens to condense the light on their much smaller area. The objective of a lantern polariscope performs this very well and enables a variety of polarisation, such as cross, circular, and bi-axial, to be shown. For more delicate objects, convergent systems are constructed, but these may be summed up as arrangements for concentrating on a small object and dispersing rays from it at a great angle; in other words, to illuminate and project a polarised object with the lenses very near to it, the same as when working with high powers of the table microscope; the great difference being, that in the latter it is necessary to have at least one set of lenses achromatic, whereas with the polariscope it is not. Pretty designs can be made out of selenite and mica of various thickness; the difference of thickness giving difference of color; also from sugar and many salts, and fatty acids such as stearine, being allowed to crystallize after the solution has been heated on a glass slide.

Many pieces of apparatus have been designed and made to produce illusions by persistence of vision, such as the chorentoscope or dancing man slide, the praxinoscope or wheel of life, the zoetrope or revolving disc wheel of life and the kaliedotrope or pattern maker (from perforated discs). The first three produce life-like motions and changes by the quick movement of different figures, appearing with such a rapidity that the impression made by one on the eye sight is not lost before the next appears. The last is pretty for the designs it produces as an optical illusion. It is simply an interchangeable chromotrope frame, with perforated discs (of various sized openings) revolving one over the other in pairs.

OPTICAL EXPERIMENTS.—With a lantern having a removable front so that larger objects can be brought up to the condensor, many pleasing and interesting physical laws can be demonstrated; and if a vertical attachment is provided, magnetic curves can be shown, and effects of reflection and refraction illustrated.

LIGHT—An opaque disc with a small aperture in it, should be placed in the stage of microscope to allow a ray of light to pass, and this, if analysed by a prism will be found to be composed of many colors, which can be projected on the screen in the form of a spectrum. It can also be allowed to show (by being placed in front of the slide in place of the ordinary objective,) that rays are inversed on passing through a small aperture, the same as they are in passing through a lens, as in a magic lantern or photographic camera. A small screen would have to be held up at a short distance in front of the aperture, so as to show the reversed pictures; there being, of course, very little illumination from the small aperture.

As regards reflections, it can be shown by a mirror, that the more oblique the angle of incidence, the less the number of rays reflected. Thus in the case of water, out of 1000 rays when the angle is 40 degrees 22 rays are reflected, 60 degrees 65 rays, 80 degrees 333 rays, and 89½ degrees 721 rays. Images reflected appear as far behind the mirror as the object is in front, and in lateral inversion, that is, right for left.

REFRACTION, or the bending of the rays, may be shown by passing a ray through a thick piece of glass, or water, and reflection and refraction both shown by a prism, for where there is refraction there must also be reflection, and the higher the density of the transparent medium, as instanced by the diamond, the greater the reflected rays. A decomposed ray that shows color, can be divided by a prism, and each color intercepted in turn. It can be demonstrated that white light is composed of various colors, which may be divided or re-united at will, by taking a disc colored in proportionate spaces as they exist in the spectrum and rotating it rapidly to produce white light, or by taking a prism of the same refracting angle as previously mentioned and placing it in an inverted position near it.

A table showing the different sizes of discs obtained by using lenses of various lengths of focus. The picture or slide being three inches in diameter.

Distance from Lantern to Screen.	6in.		7in.		8in.		9in.		10in.		11in.		12in.		14in.		16in.		... Focus of Lens
	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	
12 feet	6	0	5	1	4	6	4	0	3	7	3	3	3	0	2	6	2	3	Diameters of Discs.
15 ,, ...	7	6	6	5	5	7	5	0	4	6	4	1	3	9	3	3	2	9	
20 ,, ...	10	0	8	7	7	6	6	8	6	0	5	5	5	0	4	3	3	9	
25 ,, ...	12	6	10	8	9	4	8	4	7	6	6	9	6	3	5	4	4	8	
30 ,, ...	15	0	12	10	11	3	10	0	9	0	8	2	7	6	6	5	5	7	
35 ,, ...	17	6	15	0	13	1	11	8	10	6	9	6	8	9	7	6	6	6	
40 ,, ...	20	0	17	1	15	0	13	4	12	0	10	10	10	0	8	6	7	6	
45 ,, ...	22	6	19	3	16	10	15	0	13	6	12	3	11	3	9	7	8	4	
50 ,, ...	25	0	21	5	18	9	16	8	15	0	13	7	12	6	10	8	9	4	
55 ,, ...	27	6	23	7	20	7	18	4	16	6	15	0	13	9	11	9	10	3	
60 ,, ...	30	0	25	8	22	6	20	0	18	0	16	4	15	0	12	10	11	3	
65 ,, ...	32	6	27	10	24	4	21	8	19	6	17	8	16	3	13	11	12	2	
70 ,, ...	35	0	30	0	26	3	23	4	21	0	19	1	17	6	15	0	13	1	

P Picture ... ... 3in.

F Focus ... ... 6in.

D Disc ... ... 15ft.

L Length from Lantern to Screen 30ft.

EXAMPLES.

To find Disc $\frac{P \times L}{F} = D$ or $\frac{3 \times 30}{6} = 15$ feet diameter

or length $\frac{D \times F}{P} = L$ or $\frac{15 \times 6}{3} = 30$ feet

or Focus $\frac{P \times L}{D} = F$ or $\frac{3 \times 30}{15} = 6$in. focus

J. G. JONES.

Rambles.

ALDERLEY.

The first ramble of the season took place on Saturday, May 4. The fine weather tempted many to charge their dark slides, pack their cameras, and make for the railway station. Over 40 members and friends assembled at London Road Station, and taking the 1-30 p.m. train, were soon landed at Alderley. A pleasant walk along the highway brought the party to Nether Alderley, where photo taking and picture making were begun. Although the trees had not quite taken on their mantle of living green, there was plenty of material for the cameras in the picturesquely-situated little post-office; the cottages with ivy-covered porches; the many-gabled church; the old mill, with its quaint windows in the roof; the old school in the churchyard, built, as a tablet over the door tells us, by Mr. Hugh Shaw, clerk, in 1628, and endowed by Mr. Thomas Deane de Park in 1694; and the old Hall with its moat and mill pond. After tea at the old posting-house, the "Eagle and Child," a group was taken by the leader, under an old tree by the road side, said to be a walnut, and called by the inhabitants the monkey-tree. An enjoyable walk followed up Welch Lane, where several views of the neat thatched cottages were taken, past the ancient copper mines, and on to Alderley Edge. A scramble down the Edge, and a short walk along the lower road brought the party to the station in good time for the eight p.m. express to Manchester. The weather kept beautifully fine all day, except that a smart shower came on while the party were in the train returning home.

F. W. Parrott.

THE VALLEY OF THE IRWELL.

To talk of a ramble up the Irwell in search of subjects for pictures sounds odd, to say the least about it, but one "might go farther and fare worse." Many who have only seen the old stream as it slowly meanders along its inky bed through the city of Manchester, or have given it a passing glance at Throstle Nest, will be surprised to learn that in its upper reaches, within a few miles of the Exchange, it abounds in the picturesque. Mr. Alfred Rimmer, in his "Summer Rambles round Manchester," published in "The Manchester Guardian," describes the valley through which it runs as "greatly resembling the Vale of Llangollen, though on a smaller scale." Its waters are black it is true, but from a photographic point of view that does not count, and, as we are not wanting to bathe in it, we can take up a similar position to the Arab proverb, which says "Praise the sea, but keep on land."

On Saturday afternoon, May 18th. some thirty-six members and friends started from New Bailey Street Station for Ringley Road, on the Bury line. The company was in the best of humours, everybody trying to be agreeable and pleasant, so that, considering everything, "we had a good time of it," as the Yankees say. Alighting from the train we made for Ringley village, some half-mile away. There is a fine prospect, on a clear day, from the high land which we cross over on the way. It is essentially characteristic of Lancashire; villages and hamlets, each with its church spire and tall chimney, can be seen on every hand. The land is undulating—no flatness about it—with just sufficient foliage to relieve the eye. Whichever way we turn we see little groups of human hives dotting the panorama. On the crest of the rising land in front, and standing in juxtaposition, we can discern Clifton, Kearsley, Stoneclough, Farnworth, and the outskirts of Bolton. Nearer to us, and down in the valley of the Irwell beneath, lies Ringley, Prestolee, and numerous hamlets, scattered among the trees. Turning to the right there is a repetition of the same features, except that, standing out against the horizon, about six miles away, is the bold outline of Holcombe Hill, topped with the monument erected to the memory of the great Sir Robert Peel, who hailed from that district. The hill over against it, almost buried in trees, is crowned by a tower erected by the celebrated Grant Brothers, and in the valley between the two hills the Irwell winds its way towards this place. There is the possibility of a good picture here if a good foreground was looked up, and a clear summer's day chosen, but it must be left for the future, for we have some miles of a walk before us—we must get on with the ramble. Descending the hill, through a pretty clough, the canal bank is reached, and a short walk brings us to Ringley village.

This is a quaint old place, and bears the marks of antiquity upon it. By the side of the bridge which spans the river are the remains of the old village stocks. They have had their day, and there is not sufficient left to make a picture by themselves. They might be introduced, with effect, into the foreground of a composition embracing the narrow bridge, with, perhaps a farmer's cart crossing, and showing the old village inn on the other side, with the rising ground beyond; but it would have to be a morning picture. As we cross the bridge, we notice that although it stands on three arches, there is only width for one cart, and the side walks, which are worn with age, are only about a foot and a half wide. As in similar old structures, V-shaped indentions have been made in the sides for the safety of foot-passengers. By the river side our friends are busily engaged erecting cameras and focussing the bridge. The picture includes an old church tower standing on the other side of the river, and a portion of the village on the elevated ground behind. Unfortunately, there is a lack of contrast in the scene, and the foreground requires relief, but help may be obtained in this respect by bringing in a figure—say one of the villagers—they are very obliging—on the road as though coming from the bridge. It makes a charming little picture. Another view may be had showing the other side of the bridge, by moving a little higher up the road. A sketch was given in the "Manchester Guardian" taken from that position. It gives good breadth, with plenty of vigour, but wanting in balance. A cart loaded with hay on the lower end of the bridge would introduce the latter element. Numerous other views may be had higher up the river, but our ramble is in the opposite direction, towards Manchester. Before leaving Ringley, the old tower, which forms a picturesque landmark, is worthy of notice. Originally it formed part of the village church, demolished thirty-four years ago. A new church was erected at that time a short distance away, and the tower left standing alone. It bears an inscription in relief, stating "NATHAN WALLWORTH BVILDED MEE, ANNO DO. 1625." A wall in front, built within a few feet of the tower, hides the base of it, and stops us from securing a photograph of an interesting subject.

Our way is now through the village, to a point where the Irwell and the canal come within a few yards of each other. We can hardly realise that the river below is the same stream that runs through Manchester. High rocky sides, surmounted with trees and green slopes, and the water below rushing and tumbling between boulders of new red sandstone, or sweeping round projecting clumps of trees, produce some pleasing river scenes. Though the colour of the stream is as black as it can be, the reflections of sky and bank are not much interfered with, and there is abundance of foliage. In former times there was plenty of fish in the river. An old historian, writing of this locality, said "The river hath trout, chub, dace, gudgeon, and eels" and affirms that, prior to his time, there was salmon to be caught. We are afraid this state of things will never recur. On the canal, between here and Clifton, there are several locks, nicely situated for making pictures; indeed, it is a common thing to find artists at work, with easels erected, making sketches both on the canal and in the river bed. The road over the second bridge on the canal bank, leads into a romantic and pretty clough, abounding in wild flowers. The footpath runs irregularly among the trees, and the children of the district appear to ramble about it much as they please, for it is void of fences. We had not time to go into it.

At this point of the ramble the weather, which hitherto had behaved itself very decently, began to threaten, and dense banks of clouds assembled in black array. The signs were very grave, but, as we were close to the cottage where tea was ordered, little attention was paid to it, for we thought the storm might blow over—but it didn't. All the party had arrived at "Giant's Seat," and some had recommenced picture-making at the bottom of the garden, spreading their tripods about and ducking their heads under their cloths in the coolest manner possible, when the storm burst. When the first drops fell—and they were large ones—the venturesome spirits in the garden looked up as though surprised at such an intrusion. They attempted to look dignified, and then struck a doubtful attitude for a moment, as though they were uncertain what to do. But it was only a moment, for the rain swept down like a deluge upon them. Then there was a scrambling together of tripods, a snatching up of bags, and a grand rush, pell-mell, for a place of shelter. Fortunately this was close at hand in a wooden structure near the house, and there we passed the time until the storm had spent its fury. The announcement that tea was ready was very acceptable, and full justice was done to the ham and eggs provided by the hostess.

After tea, operations were again resumed. Several pretty views may be obtained from the garden, and others may be got within a short distance of it, on either side. One of these, looking down the river, contains some large masses of rocks running out into the stream, making a vigorous foreground. Another embraces a veritable waterfall caused by an overflow of the canal, but, as that branch of the canal which supplies it was undergoing repairs, the fall was not in working order and had to be omitted. Following the canal bank towards Clifton, a second lock is reached, and here cameras were fully occupied. The picture was improved by the unexpected addition of a boat's crew of the Agecroft Rowing Club in full boating costume. At the request of the leader, these gentlemen kindly pulled their boat into position, while our members "took shots" at them. Several other views were taken farther on, but some of the best positions had to be passed by, as the weather was very uncertain, and the place is badly situated for getting shelter in case of a shower. The district through which we passed is described by Mr. Alfred Rimmer, in his "Summer Rambles Round Manchester," in the following words. He says:—

"And now we come to a very beautiful range of the river; indeed, it is so beautiful that if the waters were purified it would hold its rank among the most charming parts of England. After passing Ringley Church we arrive at the canal which connects Manchester with Bolton and Bury. This canal was commenced in 1791, and descends by a series of six locks to the Mersey and Irwell Navigation by the Prince's Bridge at Salford. There is a broad walk on the right-hand side as we descend the canal, and if we take this walk at Ringley we shall have from there to Clifton a charming range of some three miles of exquisite scenery. It greatly resembles the vale of Llangollen, though it is on a smaller scale. The Irwell, with its pools and eddies and rapids, has now become a considerable river, and we see it through richly-wooded banks far down below us winding its way to the Mersey, while the canal, which is on a level with the broad roadway, is slowly passing along to the same destination. The parallel between this scene and the Dee winding its way through the vale of Llangollen, while the Chester and Ellesmere Canal is travelling on a higher level in the same direction, is very striking; but, as before said, the Dee valley is on a larger scale. While sketching the single-arched bridge which figures here, I observed a fish leap out of the water after a fly, and saw its form very clearly; indeed, it was not five yards away, and I could not refrain from thinking what its fate would be if it were even only for a few seconds in the outwardly beautiful river that ran below."

Reaching Clifton Station, which is but a few miles from the city, we were soon at home. GEO. WHEELER.

HOLFORD HALL AND LOWER PEOVER.

The third out-door ramble of the season took place on Saturday, June 1st, to Holford Hall and Lower Peover. The train left Manchester at 12-42, and arrived at Plumbley station soon after 1-0, and, after a very pleasant walk through the fields, Holford Hall was reached about 2 p.m. This hall is the old seat of the Cholmondeleys, but is now used as a farmhouse, only a portion of the old building now remaining. The original plan of the building was three-sided only, the fourth side being formed by the moat and the bridge. The upper storey, looking into the interior of the court, projected on wooden pillars over a piazza: this is the part that has been taken down. Through the kindness of Mrs. Kinsey, the tenant, an old photograph of the original building was shown to the members, and many were the regrets that it had not been restored on the old lines. However, the portion of the old building still remaining makes a very nice picture with the quaint bridge in the foreground; and, by a little care in selecting the point of view, the "restored" part may be hid from view by the foliage. The lighting of the subject is best in the early morning, but still, good pictures have been obtained, and were, on this occasion, in the afternoon.

A little below Holford, where the Peover Eye, a small river, joins Waterless Brook, there is an old mill to which we paid a visit. Here many plates were exposed, and in every respect the lighting was perfect, but the wind was very troublesome, and more than one expressed a wish to visit the spot again.

A pleasant walk of a little over two miles through "fields and pastures new" brought us to that quaint old church at Lower Peover, that makes a picture from almost any point of view. In less than a quarter of an hour after our arrival I counted no less than 35 cameras at work on the outside and 10 inside. The church itself is a fine and almost unique specimen of a black and white timbered church, in which the ancient features were most carefully restored in 1852. The tower is the only portion built of stone, and this was erected in 1582. In the interior, the pillars, arches, screens, pulpit, &c., are all of massive dark oak, to get a successful negative of which is a most difficult thing to accomplish. At the time of our visit the light was exceedingly good. and I trust some good results have been obtained. In the Shakerley Chapel is an oak chest, on the lid of which runs the legend that the Cheshire damsel who can lift it is worthy and vigorous enough to become a Cheshire farmer's wife.

After tea, which was served at the hotel close by the church, our homeward journey commenced. The wind had now ceased, and a perfect calm took its place. Many lovely effects were noticed in the fields and woods as we passed by. Manchester was reached a little before eight o'clock. The summary of our day's work was 65 members and friends present; 47 cameras, varying in size from 12 x 10 down to quarter-plate, through which upwards of 270 plates and films were exposed.

J. DAVENPORT.

LYMM AND WARBURTON.

CYCLISTS—MAY 25th, 1889.

This, so far as numbers go, was not a very great success, owing possibly to its omission from the announcements on the preceding monthly circular; but in every other respect, it was very satisfactory.

The roads were all that a cyclist could wish for: dry, clean, and even of surface. For the purposes of photography, the light was equally satisfactory.

Our first destination was Lymm, with its widely known Cross, standing on old steps, most of which are formed out of the natural rock, and occupying the site of a very ancient original cross. This, with the stocks adjacent, first received our attention, and then we wended our way to the Dingle, a romantic valley formed evidently by some convulsion of nature. The brook courses through its length between rocks, almost perpendicular in some places, and several good pictures may be had here, when the weather is suitable. We next turned our attention to the Parish Church, but instead of the tower standing boldly out, in strong relief beyond the Mill Dam, the most conspicuous object was a stonemason's crane, and this we were not inclined to trouble about. The church was being restored.

We had an excellent tea at the "Fleece," and mounted our *chargers* for the historical village of Warburton, which, after a very pleasant run through Rushgreen and Heatley, we soon reached and exposed a few plates on the old church and its surroundings. I call it historical, for even the name itself carries us back to some of the earliest days of English history. St. Werburge, after whom the village was named, was a pious princess, daughter of Wulfere, King of Mercia, a man who certainly was not of the same religious disposition as his daughter, for, if certain records be true, he was the first king in this country guilty of the ecclesiastical sin of simony, and he is credited also with the murder of his two sons to prevent them from being Christians. St. Werburge eventually removed to Chester, where she died, and was buried.

From this village, the family of Warburton of Arley, took their surname. It was previously Dutton, for we read that Geffrey, son of Adam de Dutton, owned, and resided at Great Budworth, and was called Sir Geffrey of Budworth, and that his grandson Peter, removed to Warburton, where he took the name Peter de Warburton, and the family have retained the surname ever since, although it is now about four hundred years since they left, and took up their residence at Arley.

It may be of interest to some of the readers of our *Record*, to know that during the lifetime of Adam and Geffrey above named, their possessions included the towns of Great Budworth, Aston-by-Budworth, Lower Tabley, Sutton-by-Frodsham, Appleton, Newton-by-Daresbury, Hatton, Stretton, Warburton, half each of Lymm, Sale, and Lower Walton, besides other places.

Before I close I may also say that the present vicar is a Mr. Warburton, nephew of the Mr. Warburton of Arley, in whom is vested the advowson and manor of that village, and half of the same rights and privileges over Lymm.

JOHN MACNAMARA.

Several times during the last quarter the editor of *The Amateur Photographer* has referred to the M.A.P.S. in genial and complimentary terms. Noticing our list of rambles for June, he says :—"Their programme of rambles for the month is enough to make the mouth of the parched Londoner to liquify, so tempting is it."

The Manchester Amateur Photographic Society.

Monthly Meeting held Jan. 8th, 1889, the President in the chair. Messrs. A. Ashton, G. H. Constantine, Albert Harris, Frank Lee, J. Lehnhoff, E. A. Mansfield, Walter Mansfield, J. J. Meakin, junr., William Mounsey, Henry Taylor, and Dr. Mullens, were elected members.

An exhibition of photographs was afterwards held, and continued on the two following days.

Monthly Meeting held Feb. 12th, 1889. Mr. Wm. Stanley took the chair and in a brief speech introduced the new President, Mr. S. F. Flower, who gave a short address from the chair.

Messrs. F. S. Bedford, B. J. Belisha, B. Briggs, W. H. Brittain, F. Edwards, John Highly, D. G. Holmes, R. R. Lister, E. Mansfield, A. R. McInnes, F. Moorhouse, Richard Mottram, R. Parkes, G. A. Peel, F. Smith, Henry Sykes. C. G. Virgo, John Wilcock, and A. Young, were elected.

The President announced the project of an Annual Dinner, and the purchase of an Enlarging Lantern.

Messrs. J. Davenport, H. Smith, and J. W. Wade were requested to supply two prints each to the Birmingham Exhibition, as an exhibit on behalf of the Society.

Mr. William Stanley commented on the recent compressed gas cylinder explosion at Dublin, and Mr. James Hart showed how to test for explosive compounds when making gas with potassium chlorate.

Mr. T. Morley Brook gave a demonstration on enlarging with bromide paper, using the Society's lantern.

Monthly Meeting held March 12th, the President in the chair. Mrs. F. Virgo, Messrs. J. Bentley. C. F. Brenan, S. Bunnelly, T. Clarke, E. A. Ehlinger, T. Glazebrook, J. C. Lees, J. R. Purdy, G. W. A. Pearson, A. V. Slater, J. C. Thompson, A. Wood, and L. J. Wright were elected.

Mr. R. O. Gilmore read a paper by Mr. Geo. Wheeler on "The Photographic Survey of Old Manchester and Salford," which was adopted.

A Sale by auction of surplus apparatus belonging to members then took place. Mr. Mercer, one of our members, kindly gave his services as auctioneer.

Monthly Meeting held April 9th. 1889. the President in the chair. Messrs. J. R. Barlow, Jas. Blake, G. W. Cowling, G. Hargreaves, J. A. Morton, H. Shaw, S. O'Kell, and Rev. G. D. Hughes, were elected.

Mr. J. A. Furnivel gave a demonstration with his Improved Oxy-hydrogen Lantern Microscope, and exhibited about 70 microscopic slides, thrown upon a screen. Mr. Jas. Hart, F.C.S., described the slides. Mr. Furnivel afterwards exhibited a series of photo-lantern slides sent by the Boston Camera Club, of Boston, U.S.A., and the Hon. Sec. read the description sent therewith.

Monthly Meeting, May 14th, 1889, the President in the chair. Messrs. W. Burne, F. Deakin, D. Hulme, C. E. M. Kelly, J. M. Megson, W. H. Pugh, W. W. Shorrocks, and Harry Tordoff, were elected.

Mr. Parrott announced that 42 members and friends were present at Alderley on May 4th. 36 cameras were used, and over 200 plates exposed.

Queries from the Question Box were answered by Messrs. H. Smith, J. Whitham, R. O. Gilmore, T. Steventon, F. W. Parrott, and others.

Mr. Geo. Wheeler read a short paper on the Hydroquinone developer for Bromide Paper, illustrated with numerous (and humorous) examples. The President read a letter from Mr. A. L. Bostock reporting progress made by members of Photo. Survey scheme.

Mr. W. H. Shirley exhibited Stanley's new instantaneous shutter.

At the conversazione, photographs of Alderley, &c., were shown by Messrs. W. Stanley, Mounsey, Sykes, J. T. Hughes, J. H. Seed, G. Wheeler, H. Shaw, F. W. Parrott, and others.

Monthly Meeting, June 4th, 1889, the President in the chair. Messrs. G. Clayton, J. Crossley, and G. E. Mellor were elected members.

Mr. Parrott having resigned his post, the President introduced the new Secretary, Mr. R. O. Gilmore, who briefly responded.

The Rev. H. J. Palmer, M.A., exhibited results of his recent travels in the South of France, and delivered a short explanatory address. The Hon. Sec. proposed, and Mr. Wheeler seconded, a vote of thanks to the lecturer, which was carried unanimously.

Rambles to Ringley and Holford Hall, and cyclists' ramble to Lymm, were reported.

A number of questions on photographic subjects were asked and answered.

Pictures were exhibited by the Rev. H. J. Palmer, M.A., and by Messrs. Davenport, Sykes, H. Smith, Welch, and others.

About 90 members were present.

Our Wide Angle Lens.

A New Method of Intensification.—In place of ammonia, which is generally used to darken negatives after they have been bleached by mercury, use lime water. A bath of this will produce an exceedingly even and good-coloured negative. Ammonia acts in a very uncertain way, and, even when carefully used, is the cause of numerous stains and marks; besides, it is difficult to regulate the intensity with it. Lime water is free from these failings, the negative being evenly darkened throughout, and quite as permanent as any other method of mercurial intensification, the metal being reduced to a state of oxide. To prepare the solution, take a piece of freshly-burnt lime, say the size of an apple, place it in an earthenware vessel, and pour sufficient cold water on it to just cover it. After the violent action which will be produced has subsided, add about two quarts of clean cold water and stir the whole mass. It should now be poured into one or more bottles and allowed to settle. The clear liquid which will form at the top is that portion which is to be used when intensifying. It is simply poured from the bottle into the bath so as not to disturb the sediment. The bottle must be always kept full of water, and well corked: so that when a portion has been taken out, fresh water must be added at once or the entire solution will become inert. If it is desired to remove the intensification from a negative which has been treated after the method just described, it is quickly accomplished by soaking for a few minutes in a bath of hyposulphite of soda, followed by a good wash, and then for a short time in a dilute bath of hydrochloric acid.

Stains and Fog on Bromide Paper.—Those who have used bromide paper, either to print by contact or for the purpose of making enlargements. know how at times stains and irregular marks will make their appearance in a most unaccountable manner. These are difficult to get rid of, and many a sheet of paper—costing money—has had to be consigned to oblivion, amid bitter regrets, in consequence. A member of an American firm of photographers has recounted his experience in dealing with a batch of 500 bromide prints, all more or less damaged by irregular stains and markings, and the information he gives is worthy of preservation for reference. After various experiments, he tried a solution of cyanide of potassium, to which had been previously added a few grains of iodine, which is readily taken up by the cyanide solution. This accomplished the end sought, and the prints were saved. His *modus operandi* is best given in his own words, as follows:—"This solution suggested itself as a means of reclaiming them. We proceeded to make up a strong solution for stock, diluting it as required for use. We selected one of the worst prints and immersed it in water until thoroughly wet. We then placed it in the bottom of a porcelain dish, and then by means of a tuft of absorbent cotton, we applied the cyanide solution to the margin of the print. When lo! 'it washed it white as snow,' cutting away the yellow stain, leaving not a trace of it behind. We went over the margin carefully, taking care to avoid encroaching on the picture itself. After this we washed the print well, and then placing it back in the dish once more we covered the print for a moment with a weak solution of the cyanide. Its action was carefully watched, and the moment the high lights cleared up it was whisked out and thrown into a tray of running water. The result was most pleasing, so much so that we treated the whole 500 in a like manner and saved 95 per cent. Subsequently we used this method on some enlargements which were a trifle over-exposed, with most excellent results. It does not in any way impair the surface or texture of the paper. Of course it must be thoroughly washed after the operation. It is possible that some of the many workers in bromide paper may find this hint useful to them in their daily practice. But let me caution them not to use too great a proportion of the iodine in the cyanide solution. There is no necessity for measuring the amounts. Simply add a few grains of the iodine at a time to the cyanide solution. The proper strength can be determined by testing it on any old bromide print."

Permanent Toning Bath.—This may be made so as to be always ready for use, with good keeping qualities, as follows:—

Borax (powder)	1½ drams.
Hot water	10 ounces.

Shake up till the borax is dissolved, and, when cool, add the gold according to the number of prints to be toned, say one grain of gold chloride to one dozen half-plate prints. Prior to toning, neutralise the acid in the prints by soaking for a few minutes in bath containing some washing soda. After toning, bottle the toning solution for future use, and keep it in a dark place. When wanted again, all that is required is to add the necessary gold. The bath will keep indefinitely, and improve with time, although it may become discoloured. Occasionally it will require filtering.

A Focussing Screen, superior to ground glass, may be made from a spoiled negative plate which has been cleaned and varnished with hard negative varnish. When thoroughly dry, work over it in circles with the ball of the thumb, which will produce a fine semi-transparent "tooth."

Question Box.

Title on Negative.—How is the name of a view printed or written on a negative?

Ans.—Various methods are employed, some of which are as follows:—Write the inscription on the surface of the sensitised paper (some part on which deep shadows will be printed) with indian ink in which a little yellow ochre has been mixed. After printing the picture, the ink will dissolve in the first washing, and leave the lettering white. The yellow ochre makes the ink more opaque, and allows it to be used thin. so as to flow freely from the pen.

Another—Write with white ink, made from Chinese white mixed with gum water, on the print after it is finished.

Another—Write the title on paper with a copying-ink pencil and then transfer the lettering to the film while it is damp. After the negative has dried the inscription is easily strengthened. should this be required.

Another—Use an ink composed of a strong solution of cyanide of potassium, a little iodine, and sufficient gum arabic to prevent it from spreading.

Clouds in Negatives.—What is the best method to obtain clouds in negatives, and how best developed so as to print?

Ans.—If the clouds are in the scene give a short exposure, say cap-off-and-on, when you may get the clouds at the expense of the picture. Sometimes clouds may be retained in an exposure lasting two seconds, but this is exceptional. In developing, the sky may be held back, in views containing a defined horizon, by passing a camel-hair mop, dipped in a weak solution of bromide, over the sky, soon after it has begun to appear, while the foreground is as yet undeveloped. Take the plate out of the bath for this treatment and hold it upside down Often the clouds are in the film of an ordinary negative, but will not print because the sky is too dense. This may be remedied by treating the sky with chloride of lime solution. as recommended in the paper on "The Improvement of Landscape Negatives," given in No. 1 of the *Record.*

Stereoscope Mounts.—In mounting pictures for the stereoscope, and including more of the subject on one picture than the other, seeing that some portion will not be on both pictures, and therefore cannot be seen stereoscopically, where is the advantage of so mounting?

Ans.—The reason is based on visual effect, and can be demonstrated. By cutting one-eighth of an inch off the left-hand side of the left-hand print it causes the picture to recede from the mount. thereby presenting it stereoscopically correct.

Halation.—Is halation reduced to a minimum by using a small stop, or does this not affect it ?

Ans.—The small stop will not destroy halation, but if the stop is very small it will deaden the brilliancy of the high lights and all other lights, including halation along with the others.

Backing.—In taking interiors, does halation disappear entirely by backing plate ? Is this preferable to using a thickly coated plate ?

Ans.—Halation is reduced to a minimum by backing plates, but this does not entirely destroy it. Thickly-coated plates are excellent for their freedom from this defect, but the preference is a matter of choice. Some time ago Mr. Parrott exhibited two negatives exposed on the same subject and at the same time. One was backed, the other was not treated at all. The result clearly demonstrated the efficacy of backing.

Paris.—I intend spending next week in Paris. I should like to know (1) If it is advisable to take a camera with me, as I have heard that photography is not allowed in that city by strangers. Can anyone say if this is correct ? Also (2) which would be the most suitable camera, detective or half-plate ?

Ans.—(1) Photography is allowed, but not near the fortifications. It is also permitted to photograph in the Exhibition, but at a prohibitive charge. (2) A detective or quarter-plate is best, being most portable.

Toning.—Can anyone recommend a formula for toning prints a bluish black or purple colour ?

Ans.—The colour of prints does not depend upon formula alone ; it is affected by the character of the negative, the depth of printing, and the care used in not allowing the bath to be contaminated with other chemicals introduced by carelessly cleaned dishes, fingers that have been in contact with hypo, &c. Try the following, both of which will give good results :—

Chloride of gold	1 grain.
Acetate of Soda	20 grains.
Water	8 ounces.

This should be made at least twelve hours before using. The other is :

Chloride of gold	1 grain.
Water...	10 ounces.
Borax	120 grains.

Sufficient bi-carbonate of soda should be put into the gold solution to neutralise any acid that may be in it. This bath may be used as soon as cold, for it is necessary to dissolve the borax in hot water, and, when cold, add the gold to it. This is an important point. The gold must be added to the borax, and not the reverse. The print is now placed in the toning bath printed side down, and moved about to expel any air-bells which may have adhered to the under surface, and it is well to keep the solution moving till toning is completed, as when there are a number of prints in the bath, it causes the gold to deposit equally on all. The print should remain in the bath till of a fine purple tone, which usually takes from twelve to fifteen minutes; the bath to be used at a temperature of about 70 degrees Fah.

Pizzighelli Paper.—Can any member give a few good hints on Pizzighelli printing, how to get black tones like bromide?

Mr. Whitham has produced the best prints with this paper that we have seen. His opinion is that all depends upon the use of a strong negative and care in the damping. He places the paper in a damp cellar to absorb moisture slightly; then prior to inserting in the printing frame, waves it backwards and forwards a few times. Good white high lights will not be got unless the negative is vigorous.

Landscape Plate.—Which is the best plate for landscape work?

Ans.—This is entirely a matter of opinion. Most photographers have their pet plate by which they swear, and all others are bad or indifferent. Thomas' thickly-coated is specially made for landscape work, and has a good repute. The "Manchester" plate is also excellent, and deserves to be better known.

Detective Camera.—Can any member recommend a good detective camera of reasonable price?

Ans.—The President considers McKellan's camera both cheap and good. Mr. Whitelow has a detective camera of his own make which is highly spoken of.

Furnell's Shutter.—Is Furnell's a reliable shutter, and free from vibration?

Ans.—Mr. Gilmore speaks favourably of it, and Mr. T. M. Brooke has previously commended it. See No. 5 of *The Record.*

Pizzighelli Paper.—(1) Which is the best way to steam Pizzighelli platina paper? (2) Does this paper take longer to print than the ordinary silver does?

Ans.—(1) Don't steam by the kettle, as it acts irregularly—see answer to other query on same subject. (2) Rather longer to print, but much depends on the negative.

Lens.—What is a good lens for out-door work, moderately quick, little distortion, not so dear as "Ross"?

Ans.—Taylor's lenses (see advt.) are highly spoken of. Mr. Parrott has one—a gem—which he obtained from them. All lenses should be tested before purchasing. A good single lens is to be preferred for ordinary landscape work.

Plates.—(1) How do Fry's "Kingston Special" plates compare with Thomas' as regards freedom from halation? (2) What is their speed as compared with "Ilford Ordinary"? (3) For ease in working and good results can they be recommended?

Ans—(1) The slight experience we have had with the two makes leads us to prefer the former. We suppose Thomas' Ordinary is referred to—not the Thickly-coated, which gives great freedom from halation. (2) We have observed very little difference between them. Give them a test trial, and then you are sure. (3) Which of the three kinds are referred to? Each has its advocate. We prefer the Ilford as a clean reliable plate.

Backing Plates.—(1) Is it essential to back all plates for landscape work. (2) What is the best method of doing so? (3) Is it better to use the plate whilst the backing is in a moist condition, or does it suffice if the backing used is allowed to become quite dry and so long as optical contact is maintained?

Ans.—(1) It is not essential, but very advantageous, especially when the light is somewhat in front of the camera, causing the rays to stream through the branches of trees, or when a long exposure is necessary to obtain the detail in shady woodland scenery, &c. (2) The usual plan is to mix burnt sienna, or one of the umbers in gum water, and paint the backs of the negatives as they lie in the dark slides, face down, allowing them to dry before closing up. Of course this must be done in a dark room. Mr. H. Smith uses black paper which he smears with starch and attaches to the back of the plate, and he prefers this system. Another method is to use glycerine and burnt umber or a similar color. This allows the slides to be closed at once while the backing is moist, and it remains in this state. It is easily removed prior to development, and the moisture does not cause the dark slides to crack and warp. (3) Previous paragraph answers this.

All *business* communications to be addressed to the Hon. Sec., Mr. R. O GILMORE, 78 Cross Street, Manchester.

Items for the Sale and Exchange Column, Correspondence, Question Box &c., should be addressed to the Editor, Mr. GEORGE WHEELER, 46 King Street West, Manchester.

THE
PHOTOGRAPHIC RECORD
THE ORGAN OF THE
MANCHESTER AMATEUR PHOTOGRAPHIC SOCIETY.

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CONTENTS

Page
General Notes 201
Philanthropic Photography. ... 203
Developing Experiences 207
Photography in Bottles 209
Hydroquinone Development. ... 210
Photography on the Continent ... 211
Rambles—Marple 212
,, Bolton Abbey 212
,, Haddon Hall 213

Page
Our Wide Angle Lens... ... 215
Correspondence—Exposure by Rule of Thumb ... 216
,, Old Manchester and and Salford ... 217
Manchester Amateur Photographic Society—Monthly Meetings 218
The Question Box 220

General Notes.

Once more the Ramble Season has terminated. Taking it as a whole there has not been much room to complain. The leaders have generally done their duty, and striven to promote the comfort and pleasure of those who have consented to follow their guidance. They have had to meet unforeseen difficulties at times, but these have been overcome, or the best made of the circumstances, and as a Society we are indebted to them for their exertions on our behalf. Several of the rambles have suffered through the small attendance of members, but the greatest losers were those who were absent. During the season, the Cyclist Section have held half a dozen fixtures, principally in Cheshire, and have enjoyed some capital runs.

* * *

The writers of Rambles might take a hint from a query put into the Question Box suggesting the provision of a book containing information as to best local views. It is quite evident that our leaders do not write their accounts sufficiently from a photographic point of view. A few more details as to best position, light, stops, &c., would be very acceptable to some who on account of business and other causes cannot join the rambles, but would be glad to go afterwards when opportunity serves.

* * *

The hatchet which was lately flourishing about in a threatening manner between "Photography" and the M. A. P. Society has been buried by mutual consent. Life is too short for such displays.

The lantern season is at hand, and members may make "the winter of our discontent" a "glorious summer" by making slides.

◆

A new developer has appeared under the name of "Eikonogen." It is said to possess great power in developing plates that have received short exposures. Our friends who practice with detective cameras ought to test it, and give the Society a "communication" on the subject. The negatives are of a greenish black, and print quickly. Dr. Andresen of Berlin is the discoverer.

◆

The latest addition to the photographic press is "The Photographic Review," under the editorship of Mr. Thomas Bolas. It is published weekly, price one penny. Hitherto, Mr. Bolas has been associated with the "Photographic News" and "The Year Book," and is known as one of the most original and reliable workers in photography. We hope his venture will receive the support it deserves.

◆

The enlarging lantern is now ready for use, and those members who intend to avail themselves of it had better send in an early application. Particulars can be obtained from Mr. Davenport. It is a beautiful instrument, fitted for lime-light and oil, and should form a valuable acquisition to the Society. We are inclined to think that it will make a perceptible difference to the Annual Exhibition when that is held.

◆

The kindly and fraternal spirit manifested by the Liverpool Photographic Society in recognising the small office performed by one of our vice-presidents, Mr. Davenport, on our behalf, is one of the pleasantest experiences we have had as a Society. We shall only be giving utterance to the feelings of our members by saying that we cordially reciprocate these friendly expressions. Our countrymen are frequently charged with encouraging insular prejudices, and unfortunately, there is plenty of room for the charge. We have a tendency to imitate that typical Englishman, Little Jack Horner who "sat in a *corner* eating his Christmas Pie," by isolating ourselves overmuch. This is a mistake, especially so among photographers, for they are largely dependent on each other for the progress they make, and the pleasure they may derive from their pursuit. It is to be hoped that the intercourse initiated by the Liverpool Society may continue in the future, to our mutual enjoyment and benefit.

Philanthropic Photography.

By Rev. H. J. Palmer, M.A.

Read before the Society, July 9th, 1889.

PHILANTHROPIC Photography is a somewhat strange title you will think, for a subject for discussion at a meeting of an amateur photographic society.

But I hope to show you in the short paper I am to read, that there is something more to commend this matter to your notice than a merely alliterative title. It has often struck me in reading the reports of our own meetings, and of those of kindred photographic societies, that possibly good might result from the occasional reading of papers, and from discussions resulting from such papers, of which the subject-matter should relate to the ethical side of photography. We all have a natural craving for information on anything on the practical side of our art, which may have elements of utility or of novelty to commend it; but very seldom indeed do we have an opportunity afforded us of regarding our hobby from any other side than that of the description or demonstration of a process, or the exhibition or explanation of useful apparatus. This evening, however, I am going to try your patience by, if possible, setting the ball of discussion rolling in a somewhat different direction.

Now, first, in looking back over nearly forty years of photographic experience, if I ask myself what in the main, has been the end and object of my own photographic work, I am afraid I must make the somewhat humiliating confession that every process mastered, and most of the acres of negatives and prints secured, have had, as the end to be attained, not a philanthropic desire to give help, or teaching, or gladdening of some sort to other people, but simply my own relaxation and delight. And delight is in no wise too strong a word to apply to the resulting condition of mind when the baffling difficulties of a process have been mastered, and a perfect picture has by means of it been attained. Is there any pleasure in the world to surpass the sight of a perfect negative, growing and gathering in its beauty and perfection under your hand, and owing its existence, first and last, to your own thought, and care and skill?

There is no necessity to emphasize this as a fact, that the result of our photographic work is either very great enjoyment to our beloved selves, or else, when failure has befallen us, anything but philanthropic emotions. Many of us can remember the dear old days of collodio-bromide, when the trial batch of plates would produce deliciously crisp and sparkling negatives, and, on the strength of the trial-plate perfection, a long journey has been made with plates professing to be identical with those of the trial, and then on the return, every negative has been miserably mottled and unprintable, and the only comfort for us has been the maker's invariable excuse, "Something wrong with the pyroxiline." Or, as a further illustration of the misanthropy too often resulting from our photographic practice, let me tell you the brief story of a bad time in my own experience.

Some years ago I was to lecture on the erratic boulders of our island, and was especially anxious to secure for my purpose the very finest of them, the Buckstone, near Monmouth. I journeyed from Birkenhead with my camera and two plates only, and reached Monmouth after several hours in the train. I climbed the mountain to the boulder, and secured my two pictures. I trudged back to my inn to enjoy a beefsteak before taking train to the north again, and just left the room for a moment. But I returned to my dinner to find my double dark slide open in the hands of the chambermaid!

Poor thing, she was struggling in the bright sunlight of the coffee-room window to get those two plates properly back again into their slide! And I—I felt for the moment that this was a case for justifiable homicide!

And these are but specimens of the thousand accidents which attend the prosecution of our art, which are useful to us certainly as trials of our patience, as incitements to perseverance in spite of our difficulties, and so, in many directions, to stimulate exertion and determination to succeed, and thus from an amusement provide us with useful discipline and training for higher uses in life. But they hardly conduce to feelings philanthropic.

As a pursuit for the leisure of those who are much occupied in other ways, photography is pre-eminent in the pleasure and relaxation it affords; nor is there anything reprehensible in the fact, if it is a fact, that its enjoyment is in the main of a selfish character. Think, for instance, of the pleasure of all the preliminary operations; of the journey to the scene of the picture, with all its delightful anticipations; of the study and arrangement of the details of the subject, so as to secure the best and most artistic result; and, above all, the development and production of the final art effort. In all this the amateur finds to the full all that he needs of relaxation and enjoyment, and more, perhaps, than from any other hobby within his reach. Doubtless the pleasure of the photographer does occasionally result in satisfaction and delight to other people. The well-filled album of well-taken views and portraits will pass from hand to hand, and will afford instruction, interest and pleasure to many beyond the producer of the pictures. But then I venture to think that we amateurs should do our part, more readily and more eagerly than we have done, to ennoble our photography in the present, by making much of our work in it distinctly and of set purpose philanthropic. The means and methods of doing this are opening out before photographers in many directions, and we amateurs are the men to employ those means.

It is pleasant to find from our *Photographic Record* that pictures by members of this society have been collected into albums, and presented to the infirmaries of Manchester and Salford. And this has also been done in London at the instigation of the editor of *The Amateur Photographer*. Here is an excellent instance then, of philanthropic photography. It is photography ennobled. It is no longer used as a mere pastime—it is time, labour, and art-skill devoted to the cheering and helping of those who are suffering from sickness and pain. But the numbers of the workers in this direction are exceedingly few. Will not more of us this summer try to make good pictures, not with the end and object of a medal, nor yet solely for our own delectation, but to augment the pleasure of our work by aiming at giving pleasure to those who need it most? An admirable field for the pursuit of philanthropic photography will be found in the endeavour to provide entertainment for sick children. Albums for children's hospitals should contain photographs of pictures of quite a distinct class, which would tax our powers, artistic and technical, to the utmost. Imagine the delight to little bedridden sufferers, rickety, maimed, and paralysed, by the sight of a good set of pictures depicting the various games in which our children in their health and strength take delight! In another and very useful direction some of us are making our photography distinctly philanthropic, by our efforts to preserve for all future citizens a pictured record of those parts of ancient Manchester which still survive the ruthless destructiveness of our modern civic and commercial requirements.

This, too, is raising our amateur art to a higher level than mere pastime, or a mere passing pleasure for our own selfish amusement. And we may work also with great helpfulness to others, for educational and art-training purposes. In this connection I wish especially to appeal to our own members, and to amateurs in other parts of England, for help in their work this summer and autumn.

The art museum in Ancoats has been for some time doing a most useful work among the lowest class in the slummiest of the slums of our city. Copies of pictures by the great masters of ancient and modern art are upon the walls, and occasional explanations of the artistic and general meaning of these pictures have been given with much success and usefulness.

Mr. Horsfall, the founder and indefatigable Hon. Sec. of the Institution, is anxious to add to their collection of pictures a set of photographs of all our British forest trees, in their summer and winter aspect, and I have undertaken to make the negatives. I find the work, however, extremely difficult for one person to accomplish, and so I venture to appeal for help to other amateur workers all over England. What is wanted is, in each case, a picture of a good average specimen of the tree, and not of an abnormally fine one.

Those who are willing to help in this useful work will greatly oblige me by sending me their names, and that of the tree whose portrait they will kindly undertake to provide.

I have found tree photography beset by difficulty, and this will make such a series of pictures all the more valuable when they have been made, and the making of them for the help of this admirable art work in Ancoats all the more praiseworthy in those who co-operate in the work.

The Art Museums Committee will also thankfully accept for their walls or albums photographs of places and objects of beauty, or of antiquarian or historical interest.

There are other lines of philanthropic work in which we amateurs may do good and helpful service in connection with kyrle societies, lads' clubs, working men's institutes, lantern lectures to the poor, etc., etc., upon which time forbids me to enter now. Perhaps these remarks may help to give a new gladness to the photographic pleasure of the summer holiday of some among us, in that we may be induced to set ourselves to cultivate in some of the lines I have ventured to indicate, or in some others which will present themselves to us—philanthropic photography.

Scrap Books for Hospitals.—The Editor requests surplus photos for presentation to Manchester Hospitals.

The following comment is taken from *The Camera*—"The members of the Manchester Amateur Photographic Society are to be heartily commended for a recent very graceful act. They have presented the Manchester Infirmary and the Salford Royal Hospital each with a photographic scrap-book of their own work, for the amusement of the respective inmates. Many a weary and painful moment may be solaced by the perusal of such scraps, if well chosen and varied. As imitation is the sincerest flattery, we shall be glad to know that the Manchester brethren have been flattered as they deserve to be by having their thoughful kindness very extensively imitated."

Developing Experiences.

By Mr. A. C. Harrison.

Read before the Society, September 10th, 1889.

HAVING been requested to contribute a few words embracing some points in my experiences, I venture to make the following remarks, hoping that they may be of some use to others, who may perhaps thereby be saved from some of the disappointments which have fallen to the lot of most of us.

The make of plate I had been in the habit of using having recently gone out of the market, it was my desire to obtain a substitute combining all necessary good qualities at the minimum of cost.

With this end in view on a recent trip, four samples of well-advertised extra rapid plates were taken, and subjected to equal conditions, viz.:—same exposure (cap off and on), stop (*f*32), and development, with the following results :—

No. 1[*] came out with plenty of detail, but too thin to give a satisfactory print. In consequence, intensification with mercury and carbonate of soda had to be resorted to, which gave the required contrast.

No. 2 was so thin and presumably over-exposed as to be completely useless.

No. 3 was thickly coated and developed nicely, but showed a decided inclination to frill in the fixing bath. This necessitated the use of alum, which, however, did not altogether remedy the fault, for the film on one plate commenced, after a few seconds immersion in the subsequent washing, to rise in large blisters. Eventually it came off the glass in detachments, much to my chagrin, as this was the only picture of the lot of which a copy had been promised to an individual who specially posed to add dignity and beauty to the landscape.

No. 4[†] was the most satisfactory, although one of the cheapest makes in the market. It gradually grew to full density, all the detail and half tones being well rendered. When fixed it showed clear glass in the deepest shadows, and, as a consequence, gave excellent prints. Halation was entirely absent, though the subject was favourable to it, had the plate been so inclined.

The developer used was Thomas' hydroquinone formula, but diluted with an equal quantity of water. Perhaps with pyro treatment better results might have been obtained with the other brands, but the experiment was to find a suitable plate for the hydro developer, which has, for general use, so many advantages over pyro. My experience teaches me that the hydroquinone developer has less liability to deteriorate when kept in stock solutions. No clogging of the high lights, which so often occurs when pyro is used, and the clearness of the deep shadows, which makes it a valuable substitute for ferrous oxalate, whilst the latitude it allows in exposure is greatly in excess of the iron developer.

---

[*] The makers' names were given to the Meeting. [†] The Derwent.

Allow me to add a few words upon my method of toning and fixing. When the prints are ready for toning, add to the first or second washing water one ounce of saturated solution of sodium carbonate (washing soda) to the gallon. This destroys the acidity to which most ready-sensitized papers are subject. It makes them tone more easily, and lose less colour in the fixing bath, than when this precaution is not taken. For toning use

Tungstate of Soda	30 grains
Chloride of gold	2 grains
Boiling water...	10 ounces

and use when tepid.

Another very good bath, which comes from the Liverpool Society, is made as under :—

Acetate Soda	$1\frac{1}{2}$ drams
Bicarbonate Soda..	2 scruples
Borax	$2\frac{1}{2}$ drams
Water	40 ounces

Mix in a stock bottle.

When about to tone take ten ounces of the above, add two grains of gold, and in a few minutes it will be ready for work.

For fixing, use one part of saturated hypo to four or five parts of water, and allow the prints to remain in this for about twenty minutes, when they will be completely fixed and only require well washing previous to the last operation of mounting.

For storing negatives, I find a good and convenient way is to put each one in a stout paper envelope, which, being numbered, can easily be referred to if a book is kept in which all the particulars as to number, date, &c., are entered.

At the conclusion of the paper, a variety of opinions were expressed as to the storing of negatives in envelopes. The Rev. H. J. Palmer said his experience was decidedly against the envelope system. He had used them, and found that they caused the negatives to fade badly. The plates had remained in the envelopes about four years when he discovered the deterioration. They were not varnished.

Mr. Briggs had used envelopes for years past. The negatives were all right, but had been varnished.

Mr. Parks had known wet-plates which were not varnished to be in good condition after remaining in envelopes over 18 years.

Other members contributed their views on the same subject.

Photography in Bottles.

IN commenting upon a question of bottles, at the August meeting, our respected Hon. Sec. told a rather good story of his experiences in amateur photography at the Isle of Man :—

He was rusticating near Port St. Mary, at the time of the Society's ramble to "the Island," in June, and, whilst perspiring under a rather heavy load of plates, &c., &c., one very hot day, he espied in the distance three individuals also carrying sundry photographic "tackle." They turned in at the best "hotel" in the village, and, thinking that they were perhaps some of our own members, he followed. They were, however, unknown to him, and he therefore imbibed his modest "refresher" in silence.

To his amusement, a diminutive, sickly and shaky-looking quarter-plate camera was hauled up from the very capacious recesses of a 24 x 18 knapsack, and in its place sundry bottles of beer were safely stowed away. The camera was then wrapped up in the focussing cloth, and handed over to one of the party. Another took charge of three quarter-plate dark slides, and the third of these thirsty souls put the lenses, without covering or protection of any kind, into one of the pockets of his "unmentionables."

Before them was a table loaded with bottles of beer. These they pocketed, and packed away so many of them that on leaving the "hotel" each amateur simply bristled with bottled beer.

After their departure, the Hon. Sec. asked the landlord whether the trio were bound for the Chicken's Lighthouse, or for a month's encampment on "The Calf," but his astonishment may be better imagined than described on learning that they would be away for *the remainder of the day only !* and that it was their intention to go as far only as the "Sugar-loaf Rock," which they intended to photograph.

Curiosity impelled our representative to ask how many bottles of beer they intended to get through in that short time, and the landlord replied that he did not quite know ; all that he knew was, that in addition to a quantity already sent on to their boat, these three worthies carried with them no fewer than *36 half-pint bottles !*

We should *much* like to inspect the negative of that "Sugar-loaf Rock."

Mr. H. P. Robinson describes contrast as "the opposing of things of different aspect to each other, so as to bring out the fullest and best effect of each, such as the position and variety of heads, youth and age, light and shade, etc."

Hydroquinone Development.

AT the September meeting, Mr. E. Ward, F.R.M.S., made a communication respecting hydroquinone development, in reply to questions propounded at the previous meeting.

He said that having tried several formula given in the journals during the year 1888, he was not satisfied with them; but, in the latter part of that year a formula was advertised to give such astonishing results, that even if it would do only a tithe of what was promised, it would still be useful. He made up the developer according to the published formula, as follows:—

No. 1.

Hydroquinone -	160 grains.	Citric Acid -	60 grains.
Sodium Sulphite -	2 ounces	Potassium Brmde	30 grains.
Water to - - - -			20 ounces.

No. 2.

Sodium Hydrate -	160 grains	Water to -	20 ounces.

To develop, take equal parts of each. It is recommended to use the alum bath after development.

The trial of this developer was so satisfactory that, during the present year, development by hydroquinone had been strictly adhered to. Mr. Ward here laid upon the table some negatives of the Ship Canal Works, and a large series of prints and lantern slides of the Ship Canal, produced from hydroquinone-developed negatives.

Some pitfalls for the beginner were then pointed out, and it was shown that in the warmer weather the developer described required the addition of 10 to 20 drops of a 10 per cent. solution of bromide of potassium to each ounce of developer, even with drop-shutter pictures.

Particular attention was also directed to the fact that if the developer is not thoroughly washed out of the film of the Pall Mall plates, before they are placed in alum, the plates present some white unfixed patches, which are exceedingly difficult to remove; and, further, that to avoid frilling, the plates should be well soaked in alum, both before and after fixing.

As an advantage in the use of hydroquinone for development, these plates need no clearing solution, and, in the absence of the familiar yellow stains of pyro, negatives print much more quickly. Among the pictures exhibited was one taken in the rain at 5 p.m. on August 19th, with a drop-shutter exposure of $\frac{1}{30}$ of a second *f*12; the other pictures being mostly with the same shutter at *f*24; even then having to be somewhat restrained with bromide.

Several questions were asked, which pointed to the interest taken in this subject. They were answered by Mr. Ward.

Photography on the Continent.

THE interesting remarks made by the Rev. H. J. Palmer, M.A., at the meeting, when he exhibited some of the results of his recent travels in the South of France, are worthy of being recorded. He said that he had reason to know that the stereoscope study was reviving. He had often thought that for the box stereoscope, mounting in the usual manner with a sheet of ground glass behind the transparency was much too heavy. He had therefore, hit upon a plan of covering the backs of the plates with a solution of twenty grains of gelatine with milk and water; the result is much better than ground glass.

Referring to his journey to the Pyrenees, Mr. Palmer strongly advised intending travellers not to go there in the summer months. In the first place, it is excessively hot, but chiefly because the summits of the mountains are free from snow, and in his opinion, the glaciers and the snow add beauty to a picture. He thought that France had the advantage over Switzerland, provided one does not journey in "the season." In the north of France the scenery is not to be compared with our own country; but the south of France contains finer scenery than any other part ot Europe. Travelling and hotels were cheap, and one received the pleasantest and kindest attention on all sides. It was unpleasant to think that after travelling for months over thousands of miles the first unkindness was to be met with at home. No sooner did he step into a third class compartment in his own country than he was subjected to a remark about his garb or calling.

In comparing the Pyrenees with the mountains of Switzerland Mr. Palmer pointed out that while the former had not such great height they surpassed the latter, because one's standpoint was invariably lower than in Switzerland. The summit of Zermatt, for instance, is 13,500 feet above the level of the sea, but one begins his work at an altitude of 5,000 feet. Whereas, in the Pyrenees, one is invariably at an average level of about 500 feet surrounded by peaks of 11,006 feet, and the result is that one is struck with their immensity and magnitude, more so than among the Alps. But his greatest delight had been not among the mountains, but among the cities of old France upon the Rhone. Maine, Orange, and Arles had given him the most magnificent pictures, in their Roman remains, which during next winter he hoped to give the Society an opportunity of seeing on the screen.

Mr. Palmer said he had photographed about Paris this year unmolested. Five years ago, while at work in front of Notre Dame, and had begun an exposure, the gendarme came and instructed him to move, but he expostulated, and during the expostulation completed the exposure. But it was never safe to photograph in a fortified town.

Rambles.

MARPLE.

On Saturday afternoon, August 17, eight members assembled at London Road Station for the ramble to Marple. We proceeded by the 1-10 train, and, on arriving, made direct for Windybottom Bridge, where we found no lack of pictures. The Bridge was the centre of attraction, and within a hundred yards of it, about 46 plates were exposed. A Marple maiden, who came to draw water at the spring, was pressed into our service, and helped to make a very effective composition. Much to our annoyance, many others pressed us into *their* service, and simply compelled us to "take" them (which we did without drawing our shutters, of course) before they would go. The weather was favourable, and a very pleasant afternoon was spent. We had tea at Flood Gates Cottage, close by, and our party returned home in time to develop their plates if they felt so disposed.

HENRY LITTLEWOOD.

BOLTON ABBEY.

On Wednesday, August 21st, some fourteen or fifteen of the most enthusiastic of our members met as arranged at Victoria Station.

It was a glorious morning as we took possession of a "saloon" carriage kindly provided by the L. & Y. Ry. Co. On arriving at Skipton at 11-20 we were informed that the Bolton Abbey train would not leave for three-quarters of an hour. Cameras and other impedimenta were left in charge of your Hon. Sec., and, whilst some of the Ramblers paid a flying visit to Skipton and had a "shot" at the castle, others wiled away the time by sampling certain solutions in the refreshment room.

About 12-15 our "saloon" again drew up for us, and in due course we arrived at Bolton Abbey Station. As the rain still kept off, and as there seemed to be no immediate danger of a downpour, one of our members, in the fulness of his H(e)art, very kindly presented his umbrella to the railway company.

About ten minutes walk from the station is the "Devonshire Arms," and, following the lead of our President, we all entered and did ample justice to some very substantial "Melton Mowbrays," and like delicacies. Whilst engaged in this necessary and apparently most welcome occupation, there were exhibited some fine "drawings of Cork," done by a Miss "Old-bird," a local artist.

The Abbey was reached at 1-30, and work at once commenced It is, I know, customary to give here some "guide-book details," I will not, however, *bore* you with them, but content myself with saying that the "venerable pile" (as the penny-a-liners would call it) was erected about 1154, and has been standing in the same identical spot ever since.

During the afternoon the rain came down in torrents, and the ramblers might have been disheartened had they not already shown that they did not mind "wet" of any kind.

About 6-30, tea was provided by a buxom lass of some sixty-five summers, and the inevitable "ham and egg" business was solemnly and earnestly proceeded with. The Society may be congratulated upon the fact that, for what is I believe the first time in its history, nobody had the hardihood, at the conclusion of our humble repast, to fire off that weakly and dismal so-called "joke" about "dry-plates."

At 7-50, during another down-pour of rain, we once more entered our "saloon." The return journey was a huge success, Messrs. Flower and Hart keeping the Ramblers in the best of spirits ("Scotch," and otherwise). After passing through several stations, ticketed respectively "Monkey-brand," "Sunlight," "Perfection," and "Ivy Soap," we slowly and majestically steamed into Victoria, at 10-45 p.m.

As we looked in vain for the brass band and torchlight procession which should have welcomed our return—but owing to a variety of causes *didn't*—we separated, with reciprocal and affecting expressions of eternal friendship.

The following is a list of the plates exposed:—Ilford, 46; Thomas', 24; Fry, 14; Wratten, 10; Albert, 6; Mawson, 5; Edwards, 4; Isochromatic, 1. Total, 110.

R. O. GILMORE.

HADDON HALL.

Leaving the Central Station, Manchester, by an early train, we arrived at Bakewell Station. From thence we hired vehicles to convey us to the fine old baronial edifice of Haddon Hall Possession being secured of the necessary key to enable us to gain admittance to any part of the Hall, we were soon at work photographing the interesting relics of, perhaps the best remaining example of the magnificent style of residence adopted by feudal lords in centuries gone by. Haddon still remains the property of the Duke of Rutland, whose family has descended from the Peveril family, the original possessors, who are supposed to have resided there previous to the Conquest. When in the occupation of Sir George Vernon, during the reign of Queen Elizabeth, the lordly pomp and sumptuousness maintained at Haddon earned for the owner the title of "King of the Peak." To his princely style of living, together with the romantic elopement and marriage of his daughter Dorothy with Sir John Manners, the heir to the Earl of Rutland, the place owes its renown.

Proceeding first to what is called "The Ballroom," or "Long Gallery," we gave the requisite exposure on this interior subject, which is still, after so many years have passed, in a good state of preservation. After this, we made for what will always be known as "Dorothy Vernon's Door." We then commenced operations on the Terrace, and exterior views of the Hall. It was now necessary for some of us to make use of changing-bags, our slides having become exhausted. Afterwards we proceeded to the famous Banqueting Hall, and, during the long exposure here required, the leader filled in the time by showing some of the members, who were on their first visit, such interesting objects as the Kitchen, Chaplain's Room, State Bedroom, &c., most of which are not of photographic interest. Views in the Courtyard next claimed our attention, and then the interior of the Chapel, the early portion of which dates back to 1160.

Leaving the Hall, we rambled to the meadows below, from whence a good picture can be obtained of the Hall, with the river and a picturesque bridge in the foreground; but, unfortunately, the light was not to our satisfaction.

The hour now arrived for the necessary adjournment for tea, which was provided close at hand by the custodian of Haddon. After this welcome arrangement we again entered the Hall, and proceeded to the Lawn, where a few more plates were exposed. including a group of the members present.

The time for our departure approaching, we seated ourselves in the two vehicles engaged to drive us to the station, for the 4-40 train, by which we arrived home in good time.

The party consisted of nine members and two ladies, and a total of 90 plates were exposed, which number would have been considerably increased had the light been more favourable.

In conclusion, I would urge on the members intending to take part in these rambles to let the leader know in good time. Had this been done in the present case much more comfortable arrangements could have been made.

A. L. BOSTOCK.

Our Wide Angle Lens.

To Wash Negatives quickly.—Place the negative under the tap, and turn the water on so that it will fall with considerable force. Hold the plate diagonally and turn it round occasionally. While the water is falling on it, go over the surface with a camel-hair brush or a soft sponge, always moving from centre outwards to margin. In a few minutes the hypo will be eliminated.

To Clear Hydroquinone-stained Negatives.—A properly made up hydroquinone developer ought not to make stains at all, and where they do occur the cause is usually for want of more sulphite of soda in the solution, or the developing dish has been contaminated with other chemicals. The stains will very likely remove if the negative is immersed for a few minutes in

Hydrochloric Acid - - -	¼ oz.
Saturated Solution of Alum - -	5 oz.

Should this not affect it, bleach the negative with mercury as for intensification, and then darken with a weak solution of ferrous oxalate developer. The result should be a fine black colour and permanent.

Liquid Glue.—This is sometimes used as a mountant, and may be made by dissolving by means of heat :—

Shellac - - - - -	120 grains
In Methylated Alcohol - -	1 ounce.

To Prevent Frilling.—Edge the plates with Bates' Black Varnish. This may be accomplished quickly and neatly by using a cork, in which a v-shaped groove has been cut across the bottom, in the centre. Use a long cork, so that the fingers may have something to lay hold of without touching the colour. By simply turning the bottle upside down the cork will receive sufficient of the varnish. Hold the plate film side up on the left hand, and with the right hand run the cork round the margin. This will give a nice even edge, and will effectually prevent any frilling. It dries quickly, and is not injurious to the print. Ordinary negative varnish may be used for this purpose, if preferred.

Toning Bromide Paper.—When the colour of bromide prints is not satisfactory they may be improved by immersion in the following bath :—

Acetate of Soda - - -	60 grains
Fresh Chloride of Lime - -	4 grains
Water (hot) - - - -	1 pint
When cold, add—	
Chloride of Gold - - -	3 grains

Judge the colour by transmitted light, as with silver prints. Fix in the usual way.

Aristotype Paper.—To remove Aristotype prints from glass, make a solution of one part of cerasin (used in the manufacture of candles) in three parts of warm oil of turpentine. Rub the clean glass over with this, and take off the excess with a piece of flannel. The prints will then come off with ease.

To produce a matt surface, apply on ground glass, a preliminary mixture of 2 parts beeswax and 100 parts benzole which must be rubbed off again. Afterwards dust on and rub off french chalk each time a print is to be applied. When dry, the prints will fall off of their own accord.

Aristotype Mounting.—India-rubber solution for this purpose is made by dissolving

Pure masticated Rubber	10 grs.
In Chloroform or Benzole (pure) ..	1 oz.

Development during Exposure.—If a plate is soaked in a hydroquinone developer, drained, and placed in the dark slide, and then exposed in the camera, while the film is moist, it will be found to have developed itself, when examined in the dark-room. Try it.

Cleansing Stained Baths, Measures, &c.—This may be done thoroughly by using Brooke's Monkey Brand Soap, with a little elbow grease as a lubricator. It wont wash prints mind, and this advertisement wont pay.

Correspondence.

EXPOSURE BY RULE OF THUMB.

To the Editor of the *Photographic Record.*

Dear Sir,

The other evening, at one of the meetings at the Athenæum, the gentleman who read a paper on "Exposure" asserted that tables of exposure were of little value, or, at least he said his plan of judging by the light upon the ground glass was preferable and more reliable. This was said with such confidence that I allowed myself to be carried away with it, and, in my simplicity, went home rejoicing in the *bonne bouche* I had received. I said to myself "Those tables shall be thrown to the winds in future—they are a snare—a fraud, and only used by the simple ones." A few days later I received a shock, for in turning over Chapman Jones, F.I.C., F.C.S., a leading light in photography, and universally acknowledged as only second to Captain Abney, I discovered that the castle in which my hopes were fixed was in the air, and without foundation, in fact it only rested on fancy. I read as follows :—" There are some photographers who honestly believe that they judge their exposures by the appearance of the image on the ground glass. *If they can* do this, even *within wide limits*, they must be able, by inspection of the image, to tell what diaphragm has been introduced into the lens after having seen the image produced with any other of the series. . . . We believe that those who *think they judge* exposures by the appearance on the ground glass only *unwittingly* take into consideration the state of the weather and the nature of the view." He goes on to explain how, if they will persist in this method of exposure, they may somewhat reduce the "*uncertainty*." Pausing at the word "uncertainty," I said quietly "Then it comes to this: exposure by the light on the ground glass is a profound uncertainty, or what may be termed 'exposure by rule of thumb.'" I next found Professor Burton, author of *Modern Photography*, recommending tables as furnishing a scientific basis to work upon. Now, why should these gentlemen, great professors, upset the happy position I was in that evening? I thought I was on safe ground, but now find myself adrift, and going nowhere. When others have said a thing, why should these gentlemen write to unsay it? Ah, me! Hand the tables back again to me. It will never do to trust to "uncertainty."

A PERIPATETIC PHOTOGRAPHER.

OLD MANCHESTER AND SALFORD.

To the Editor of the *Photographic Record*.

Dear Mr. Editor,

How is the Photographic Survey progressing? We hear very little of it at the Society's Monthly Meetings. There has been no mention made of any written descriptions of the places to be taken —their history, associations, or antiquarian lore. Would it not add to the interest and value of the volume when complete, to follow the plan adopted by the Boston Camera Club in their survey, and have a text accompanying the photographs? If the names of the places or objects to be taken were published in the *Record*, and members asked to furnish all information procurable about them, not only would this survey be enhanced in value, but a new and very interesting feature would be added to our publication, and a special number might be issued containing the full report, when completed.—Yours truly, X.

The Manchester Amateur Photographic Society.

Monthly Meeting held July 9th, 1889, at the Manchester Athenæum; S. F. Flower, Esq., the President in the chair. The minutes of last meeting were read and confirmed. Messrs. G. Gillchrist, W. H. Machin, J. Norbury, and E. Dawe, were elected members.

The Hon. Sec. read a letter from the Liverpool Amateur Photographic Society thanking Mr. Davenport for his leadership to Bollin Valley, and promising to return the compliment.

Attention was drawn to circulars from the Photographic Society of Great Britain, from the Ulster Amateur Photographic Society, and from the Photographic Society of Florence.

It was announced that a number of copies of the *Optical Lantern Journal* had arrived for distribution.

The Rev. H. J. Palmer, M.A., then read a paper on "Philanthropic Photography." Mr. Wheeler proposed and Mr. Davenport seconded a vote of thanks for the reading of the paper, which was carried unanimously. The Rev. Mr. Palmer briefly responded.

Messrs. Wilcock and Davenport suggested a discussion upon the subject of the paper, and finally the President announced that the Hon. Sec. would be prepared to take down the names of those members of the society who would be willing to support the scheme sketched out in such paper.

Mr. Bostock proposed, and the Hon. Sec. seconded, a vote of thanks to the Liverpool Amateur Photographic Society for their offer of a "welcome to Liverpool."

Mr. Jas. Davenport then gave a demonstration on Dr. Backelandt's water-developing plates, and exhibited and used as a dark room Houghton's Photographic Portmanteau, which was somewhat irreverently dubbed a "Punch and Judy Show."

Questions found in the box were read and discussed.

The following rambles were reported:—Kirkstall, leader Mr. Smith, 7 present, 6 cameras, 60 plates exposed. Isle of Man, leader Mr. Flower, 7 present, but little work done. Whalley Abbey, leader Mr. Stanley, 8 present. Ingleton, leader Mr. Furnivel, 14 present, 7 cameras. Great Budworth (cyclists), leader Mr. J. T. Hughes, 3 members and 2 ladies, 18 plates, 25 miles covered. Chester (Mr. Davenport described the ramble).

Arrangements were announced as to Capesthorne (cyclists) by Mr. Stanley, Miller's Dale by Mr. Bostock, and Arley and Great Budworth by Mr. Davenport.

At the Conversazione, pictures were exhibited by Messrs. Davenport, Stanley, Smith, Hughes, Shirley and others.

By special request, Mr. Shirley again produced for inspection the "Stanley" shutter.

There were about 70 members present.

Monthly Meeting held August 13th, 1889, in the Manchester Athenæum, Jas. Davenport, Esq., Vice-president, in the chair. Minutes of last meeting confirmed. Messrs. J. B. Duffie and A. Kyle elected members.

Letters from Messrs. Brigginshaw and T. M. Brooke were read.

Mr. T. Steventon then read a paper entitled "A Few Words on Exposure and Development," and afterwards answered questions on the subject of the paper—(See next *Record*).

A vote of thanks for the reading of the paper, was carried unanimously. Mr. Steventon responded, and was good enough to promise another paper in a few months' time.

Reports made as to recent rambles to Miller's Dale, Capesthorne, Arley and Great Budworth, and Speke Hall.

Arrangements as to Marple, Bolton Abbey, Haddon Hall, and Healey Dell announced by leaders.

Questions in Question Box answered, *pro tem.*

Proposed by Mr. Belisha, and seconded by Mr. Wheeler, that an excursion to Paris should be arranged, if practicable, for September or October; the names of members in favour of the scheme to be forwarded to the Hon. Sec.

At the Conversazione prints were exhibited by Messrs. Davenport, Dawson, and Wheeler, and apparatus by Mr. H. Smith.

There were about 65 members present.

Monthly Meeting held at the Manchester Athenæum, September 10th, 1889, the President, S. F. Flower, Esq., in the chair. Minutes of last meeting confirmed.

The Hon. Sec. read an extract from the *Camera*, in which allusion was made to the friendly feeling existing between the Liverpool Society and ourselves, as manifested in the Liverpool ramble to Bollin Valley.

In the absence of Mr. A. C. Harrison, the Hon. Sec. read a paper received from him entitled "Developing Experiences."

Mr. E. Ward, F.R.M.S., followed with a paper on "Hydroquinone Development," and exhibited prints, negatives, and lantern slides.

Both papers were discussed by the Rev. H. J. Palmer, M.A., and Messrs. Steventon, Wheeler, Furnivel, and others.

Mr. J. W. Wade exhibited two frames of transparencies.

Reports made as to the rambles to Bolton Abbey, Healey Dell, and Haddon Hall.

Arrangements announced as to Prestbury and Worsley.

Questions in the Question Box were read.

At the Conversazione, prints were exhibited by Messrs. Davenport, Shaw, Greenwood, Wheeler, and the Rev. H. J. Palmer, M.A., and Furnell's Shutter by the Hon. Sec.

About 140 members present.

Question Box.

Local Views.—Could a book be provided containing information as to the best local views and where obtained?

Ans.—The best book for the purpose will be *The Record*, which gives all particulars (or should do) of the Society's rambles in the district as they occur. As these accounts accumulate they will become most valuable for reference.

Thomas' Hydroquinone Developer.—Can Thomas' new hydroquinone developer be recommended, and is it equal to pyro and ammonia for giving detail and density?

Ans.—It is a favourite developer with some workers. For ordinary exposures it is improved by doubling the quantity of water named in the formula. This slows it somewhat, but greater control is obtained. Density is easily produced; indeed, it gives too much, unless care is used. Compare the two developers named by exposing two quarter plates on the same subject, under the same conditions, and then develop with thoroughly clean dishes, &c.

Citrate v. Bromide.—(1) For checking the effect of over-exposure in development is a "citrate" preferable to a "bromide" and why? (2) Is citrate of ammonia preferable to citrate of soda, and, if so, why?

Ans.—(1) Citrate is better than bromide, because the latter has a tendency to clog up the shadows in cases of over-exposure, producing excessive hardness. (2) Citrate of soda is preferred by most, having less objectionable features under certain conditions: for instance, when used in conjunction with hydroquinone.

Preparation for Canvas.—What preparation is needed for canvas, before coating with emulsion to prevent flaking off?

Ans.—Neither gelatine nor albumen emulsions are suitable for canvas. They are always liable to peel and crack, whatever care is taken in the preparation of the material. The following method is recommended by Mr. P. C. Duchochois:—"The canvas is first rubbed with dilute ammonia, 1:6, to which may be added two ounces of alcohol. After washing, the ammonia is neutralized with a solution of citric acid, 1:20, and the canvas rapidly rinsed under a tap. When dry the following solution is flowed over it, like collodion:—

Gum mastic - - - -	4 grains
Elemi - - - - -	4 ,,
Calcium chloride - - -	12 ,,
Citric acid - - - - -	3 ,,
Alcohol - - - - -	1 oz. (fluid)

To sensitize, the silver solution is applied with a Buckle's brush or canton-flannel, tied between two strips of window glass five or six inches wide :

Silver nitrate	60 grains
Water	1 ounce
Alcohol	1 dram
Nitric Acid	1 drop

The image is printed by the continuous action of light ; toning, fixing, etc., as usual, or by development in exposing until the outlines are quite visible. In this case the strength of the silver bath may be reduced to 35 degrees with advantage. This process can be employed to print on silk, paper, linen, ivory, wood, etc., in the ordinary manner."

Obernetter Paper.—(1) How far should Obernetter paper be printed? (2) Does it lose more in fixing than Durand's ordinary paper?

Ans.—(1) About as deep again as silver printing requires. (2) Yes.

Backing.—(1) What is the best "backing?" (2) Can anyone recommend Abney's "benzole and asphaltum?" (3) How is this backing best removed, and when—before or after fixing ?

Ans.—(1) Entirely a matter of opinion ; see answer to query in last number of *Record.* (2) Yes, it is well spoken of. (3) Before development or fixing, remove a little from the centre with a pocket knife, so as to observe these processes. After fixing, the remainder can be removed by either benzole or turpentine, using a tuft of wool as a pad.

Obernetter.—How are Obernetter prints mounted?

Ans.—When the print is nearly dry, and while it is in contact with the glass, it is backed with paper. When thoroughly dry they will strip together and can be mounted with gelatine.

Obernetter Gloss.—Can as good a gloss be given to Obernetter prints by mounting in optical contact, using *water* only as would be obtained by using glycerine?

Ans.—No advantage is obtained by adding glycerine.

Dark Room Illumination.—Is glass better than paper or linen for dark-room illumination? Is orange as good as ruby? Why is green glass sometimes used in conjunction with orange?

Ans.—Glass is best, because its color is more permanent, and it is not likely to have little peep-holes in it. Ruby is considered safest, but is very trying to the eyes. Some years ago green was recommended with the orange for the sake of the eyesight, but it is rarely used now.

Development of Ilford Plates.—How far should a fully exposed "Ilford ordinary" be developed—until the picture is clearly discernible on the back of the plate or until the appearance of a very faint outline only?

Ans.—The high lights should be distinct at the back, but not the details. The density is best judged by transmitted light, the negative being held for an instant close to the ruby lamp.

Pyro.—Can any member give a test for the purity of pyro?

Ans.—It is so rare that any complaint of impure pyro is made, that it is not worth the trouble to test it.

Yellow Stains on Prints.—What causes yellow stains on prints, and how removed? They appear in immersion in the hypo, either strong or weak solutions. The paper has not been in contact with any metal.

Ans.—If the stains only appear after the prints have been immersed in the fixing bath, it is a sign that there is acid which requires to be neutralized, in the hypo. As a preventative, always add a little sodium carbonate or bi-carbonate to the bath. To remove the stains, try the method mentioned in the last number of *The Record*, in the "Wide Angle Lens" column, for the removal of stains from bromide paper.

Loss in Fixing.—Why do plates lose half or two-thirds of their density in fixing? (Derwents)

Ans.—The plate was probably under-developed and the fixing solution too strong. We have used the Derwent, and they stood the hypo equally with other makes; they are a good "all round" plate.

Frilling in Development.—What is the best method of developing a known under-exposed plate which is liable to "frilling" and which will not bear prolonged soaking? Developer pyro and ammonia.

Ans.—Try the addition of $\frac{1}{4}$ ounce methylated alcohol to each ounce of developer, or edge the plate with paraffin wax or negative varnish prior to development. Another plan to overcome the difficulty would be to develop with ferrous-oxalate which is less liable to frill. Under-exposed negatives are best in the waste plate box.

Dark Room Illumination.—Which is the safest light for developing, ruby or yellow?

Ans.—Ruby, but not pleasant to work by.

Toning Bath.—What is the best toning bath for purple black tones in silver printing?

Ans.—See Mr. Harrison's paper in this number; also, formula given in the last number of the *Record.*

Transferrotypes.—How are transferrotypes transferred to opals? Can reversal of image be avoided?

Ans.—A double transfer is resorted to. Full instructions can be got from Eastman Co.'s circular, or see Mr. H. Smith who has had great experience in the process.

Clearing for Hydroquinone.—Is there any clearing solution for hydroquinone?

Ans.—If rightly made up it ought not to require any. See the "Wide Angle Lens" column in this issue.

Alum Bath.—If alum is used before fixing will fixation be retarded?

Ans.—Yes, the film is hardened somewhat, and the hypo takes longer to penetrate, but the extra time is trifling.

Eikonogen.—Has any member used eikonogen?

Ans.—Yes. We have not had the benefit of their experience as yet, but may expect it later on.

Fixing Bromide Prints. — (1) What causes almost all detail to disappear in fixing bromide prints in a solution of hypo of the strength recommended by the Ilford Co.? (2) Has the temperature anything to do with it?

Ans.—(1) Acid in the hypo requires to be neutralized, or the print is under-developed. If a hydroquinone developer is used the print will not "give" in the hypo at all, but the reverse if any. (2) No.

Development of Bromide Paper.—How far should the development of bromide paper be carried?

Ans.—This depends on the developer used, and the subject.

Oil for Optical Lantern.—(1) Which is the best and safest oil for magic lanterns? (2) Does it give an offensive smell? (3) Does it require a glass chimney?

Ans.—(1) Crystal burning oil in which camphor, cut into shreds, has been dissolved. (2) Usually the offensive smell is not from the oil in the oil-vessel, but from that which has been carelessly scattered about outside, and is not properly consumed. (3) Metal chimneys are provided with the lanterns.

Litmus Paper.—Should be pleased to know the use of litmus paper, red and blue?

Ans.—It is used to indicate the presence of an alkali or acid. The blue litmus paper turns red in the presence of an acid, and an alkali restores the colour. As will be gathered from the foregoing, the red has already been acidified. The books are made by steeping unsized paper in the tincture of litmus. They can be had ready prepared from Mr. Chapman.

Furnell's Shutter.—Will the Hon. Sec. give a short description of the shutter used by him at Bolton Abbey?

Ans.—Described at the September meeting. Price is 25s.

Lenses.—How would the lens sent out with the "Optimus" Magic Lantern at 33/- compare with a good R.R. half-plate lens (say Lancaster's Rectigraph) as regards sharpness of definition, setting aside the power of light, size of picture, &c.?

Ans.—You do not say if the lens is to be used in the lantern or the camera. The Optimus lantern lens is not at all suitable for ordinary photographic operations, nor the R.R. for the lantern. Each of them are at their best when applied to the purpose for which they were made, and there is no basis for comparison.

Hyposulphite of Soda.—(1) What is the meaning of a "Saturated" Solution of Hypo? (2) Is not four ounces of a saturated solution in 20 of water enough for all purposes? (3) What is meant by "freshly-mixed" hypo? Does it mean that the crystals are only just dissolved, or hypo that has not been used before? (4) Lastly, is hypo that has been mixed six months detrimental to prints?

Ans.—(1) That the water has absorbed all the hypo that it can, and undissolved crystals remain. Hot water will hold more hypo, or any other salt, than cold water, but the term "saturated" is usually applied to solutions in a cold state. (2) That is the proportion generally used for prints. There is no rule. (3) Hypo that has not been used previously. (4) Strong solutions of hypo will keep almost indefinitely; weaker solutions are said to deteriorate. Hypo for fixing prints should have added a small quantity of ammonia, or soda carbonate, to prevent yellowness in the prints. A good plan is to place a quantity of soda crystals in a large bottle and fill with cold water, shaking occasionally. This makes a stock solution of an approximate strength of one ounce hypo to two ounces of water. As this is used, refill the bottle with water, so long as crystals remain at bottom.

Platinotype Cold Process.—What is the method of dedeveloping the new platinotype paper by the cold process?

Ans.—Full details were given in *The British Journal of Photography*, and the *Amateur Photographer*, of Dec. 14, 1888.

All *business* communications to be addressed to the Hon. Sec., Mr. R. O. Gilmore, 78 Cross Street, Manchester.

Items for the Sale and Exchange Column, Correspondence, Question Box &c., should be addressed to the Editor, Mr. George Wheeler, 46 King Street West, Manchester.

THE
PHOTOGRAPHIC RECORD

THE ORGAN OF THE
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CONTENTS

	Page		Page
General Notes	... 225	Correspondence	... 244
Exposure and Development	... 227	"As Others see us" ...	.. 245
Bromide Printing	... 236	Question Box	... 246
Two Hours Abroad ...	... 240	Sale and Exchange ...	.. 248
Our Wide Angle Lens ...	... 244		

General Notes.

To our members we tender "The Compliments of the Season," with the hope that the pursuit of our art-science during the year may prove thoroughly progressive and interesting to them.

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The Council have decided to hold the Annual Exhibition at the Athenæum in February next. Members should look up their best work promptly, so that the Show may prove worthy of our position as a Society.

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Again Mr. J. W. Wade, one of our Vice-presidents, has taken honours for lantern pictures. In a special competition, "open to all professionals and amateurs in the world," promoted by the Newcastle Photographic Association, he took the first position and was awarded the only silver medal. A leading professional obtained the bronze medal.

In the recent "Photography" competition, Mr. Wade gained the bronze medal in Class V., Architecture. He used Mawson and Swan's plates. In the name of the M.A.P.S. we heartily congratulate him.

⁂

Members will be pleased to hear that our esteemed Treasurer, Mr. J. G. Jones, is gradually recovering from his severe sickness. His absence from the meetings has been much felt.

Our Mr. Davenport was appointed one of the judges in the "Photography" lantern slide competition. As a prize winner in this branch of the art, he was "the right man in the right place."

⁂

There are several additions to photographic periodical literature. The number of claimants attempting to "catch the eye" of the students of the black-art is something marvellous, and if they all succeed it will be an additional evidence that the thirst for knowedge is almost a mania with us. "Of making of many books there is no end," and we must confess that time is too short to digest all that is presented; we can only pick a little here and there, and leave the boundless ocean of reading matter for other explorers.

One of the best of these new ventures is *Photographic Answers*, a penny monthly, edited by Mr. E. J. Wall, an enthusiastic amateur and a practical chemist. His "Dictionary of Photography" has become a text book, and is a guarantee that the P.A. will be worthy of support. The portrait of Miss Ellen Terry in the first number is in itself more than worth the money demanded for the entire magazine.

Sun Artists is a more ambitious publication, and aims at introducing the productions of our prominent photographers into the artistic world. The leading feature in the first issue is four photogravures from negatives by Mr. J. Gale. It is beautifully printed in old style, with wide margins, and the pictures have much the appearance of copper-plate etchings; the imitation plate-marks helping this. "Sleepy Hollow" is the most effective, and saves the set from being dubbed as slightly above mediocrity. The price at which it is offered, five shillings, is likely to prove too much for the general public.

The Practical Photographer, published by Percy Lund & Co., Bradford, claims to lay itself out for the advancement of "professional photographers in particular." It intends to make the illustrations to articles "a distinct feature, and in this direction . . . . the best magazine published." We think this is "written sarcastic:" anyhow, there is room for improvement. The price is one penny, monthly.

Two other magazines, *Scraps* by the Ilford Company, and the *Fallowfield Remembrancer*, are offered free. They are advertising mediums, embellished with choice oddments, which are often worth securing. The proprietors are to be commended for their spirited projects.

The *Photographic Quarterly* emanates from the "Amateur Photographer" office. The articles are of the first order, and the illustrations are really works of art. It deserves a successful career.

Exposure and Development.

BY MR. T. STEVENTON.

Read before the Society, October 8th, 1889.

IN consenting to read a Paper before the Members of our Society on the subjects which form the title of this paper, I feel myself treading on rather dangerous ground. There are at the present time so many new ideas being formulated on these subjects, that to some minds it may seem arrogance on my part to give a decided opinion as to any particular mode by which these two essential objects may be attained. I must therefore ask the indulgence of those older members of our Society who have had years of experience in photographic matters. My remarks are more particularly addressed to the younger members of our Society who may be in the midst of doubt as to a successful way out of their difficulties.

If any of my remarks trench on tried and cherished facts of a fellow-member's practice, I trust that such a one will deal lightly with me, and not crush me with the weight of a more advanced experience.

Before coming to the subject of exposure I should like to say a few words as to the plates used. At the present time there are numerous brands of plates placed before an amateur, and it requires considerable judgment to be exercised in selecting any particular brand of plates for constant use. My advice to young amateurs with regard to plates is: Do not hop from one make of plates to another with the lightness of a bird from bough to bough, but select a make of plate with a thick evenly-coated film, rich in silver, and of a medium quickness, and, when such a make has been found, to use an Americanism "Freeze to it." Though A's plates cost about half the price of B's, don't discard the more expensive brand on the question of price only, but compare the results obtained from both in a careful manner, and then make your choice accordingly. What is more annoying than to return from a photographic ramble or tour, and find on developing your plates that the results are not up to the standard you expected—and probably this is due to the fact that you changed your make of plates just to try one dozen of some largely-advertised brand which were pushed upon you by the vendors.

With regard to exposure tables. Figures are beautiful things—at times—and we should be very much at sea without our arithmetic in business, but even figures can sometimes be carried too far, and tend to complicate matters which, for beginners, cannot be made too simple. This is generally the case with regard to the indiscriminate use of exposure tables, and when an attempt is made to calculate photographic exposures by the sole aid of these tables, the results very often are sorely disappointing. If the component parts determining exposures were always of the same nature, then possibly tables might be largely admissible, but when we consider that the actinic power of the light is the great factor to be noticed, and that this varies every day, and at each hour of the day, not to lay too great a stress also on its relation to the class of subject in hand, then, I say, that exposures calculated by rule of three sums will probably be a delusion and a snare.

I would earnestly advise every young beginner to judge by his own observation the value of the light, and this can best be done —first, by taking notes regarding everything at the time of the exposure, time of day, whether clear or cloudy, dark or white clouds, stop used, plate used, and the length of exposure given in seconds by the watch. I say seconds by the watch on this account, that very few can correctly judge seconds by mentally counting one, two, three, and then say "I gave three seconds." You will generally find that this amounts to only two seconds, and so on in proportion to the length of time judged to have been given.

Do not be continually changing your stops. Select a stop with which the lens covers your size of plate sharp to the edges, and then use it for the bulk of your work. By so doing you can judge from past results a very large percentage of your exposures, and it tends to avoid confusion in your mind as to what you have done. I should like to enlarge on the subject of stops, but must make my remarks here very briefly.

Use as large a stop as you can. By so doing you can give shorter exposures, and you do not destroy all the perspective in your pictures. I have seen views shown of landscapes in which the distance was as sharply rendered as the foreground, and have heard the remark made "How beautifully sharp you have got everything." This may be beautiful to some people, but to an artistic eye it is the very opposite, as it entirely destroys the correct perspective of a view. I do not by any means advise what may be termed "fuzziness" in a view, but there is always a safe medium to be be obtained in these things. The microscopic sharpness is got by using *f*64, therefore you can judge the happy medium for yourselves.

Do not speak of your stops as first, second, and so on. Learn their relative values to each other, and the scientific mode of measuring their apertures. You can find articles on this subject in several books in our library.

Another good way to judge exposures is to take notice of the illumination of the view on the ground glass. Many of our old hands judge the exposure entirely in this manner, and when you accustom yourself to it, you will find it comparatively easy.

I heard a good story the other day with regard to an amateur and the use or non-use of stops. When asked by a gentleman what exposure he had given, he replied "About three seconds." "And what stop did you use?" "Oh," he said, "I never use stops, I just expose, and there you are." "But," said the gentleman, "How about development?" "Oh, that is the enjoyment of it. You never know what you are going to get, and if it turns out good I am all the more pleased." This is the class of amateur who is so very useful to the plate makers, and who will have a collection of negatives worthy of his *modus operandi.*

With regard to the actinic power of light. As I have already mentioned the value of the light in its actinic power, changes very rapidly, and the length of exposure given to a certain subject might in the course of an hour be either much too long or too short. This requires a knowledge to be obtained of the different degrees of light, and also the relation between direct and reflected light, and this varies so much that it can only be judged at the moment of exposure. In landscape work the high lights are illuminated by direct, and the shadows by reflected light, and it is only by comparison of the shadows with the better-lighted portions of our subject that we shall be able to judge and give a correct exposure. Clouds exercise a great influence in acting as reflectors, and the whiter the clouds the better reflected light there will be; therefore, our shadows will be better lighted, and the exposure shortened. If we have what is termed a hard light, that is to say, where there is present a bright blazing sun, and no clouds, we shall have very poor quality of reflected light, and our shadows correspondingly dark, whilst our high lights will be brilliantly illuminated. In such a case we should have to give a longer exposure to properly harmonise the high lights and the shadows in our picture. If the direct rays of the sun are obscured, it will give a soft light, in which case our shadows and half tones, will be of a very delicate nature, and we may very easily destroy the effect by over-exposing our picture, although by a modified system of development this may be to a great extent remedied, but I will speak of this matter under the heading of "Development."

Always consider the character of the subject of your picture in its prevailing tint of colour, the extremes of colour embodied in it, the relation of foreground to distance, and the importance you judge either to have, in order to ensure the best results in an artistic sense. An old authority in photographic matters gives as a maxim for all beginners, and, for the matter of that, also to others of a more advanced experience, the following good advice "Always expose for the shadows, the high lights will take care o themselves." This is good sound advice which, if acted upon will be the means of producing good negatives, provided they are not spoiled in the privacy of the developing room. I have thought for some time that there was no such thing as over-exposure within reasonable limits (I am speaking now more particularly in respect to landscape photography), and I am also of opinion that most young amateurs give too little rather than too much exposure. Mr. G. Bankart says " Amateurs give too little exposure, founded on the idea that it is desirable to reduce the exposure to the smallest practicable limit, consistent with the amount of definition obtainable, by so doing desiring to get clear plucky negatives." But so-called "plucky" negatives do not always produce that artistic print which we should desire to see ; and how often does a second-rate-looking negative give a better and more brilliant print." I can point to several in my own collection which forcibly illustrate my remarks. It is not the prettiest-looking negative which gives the best print, and negatives are only the means used to achieve that result.

Correct exposure is the test on which the result depends. There must be a correct exposure for all subjects in proportion to the lighting, and the style or effect the operator wishes to produce—whether it be the effect of hardness obtained by strong high lights and broad shadows, or the soft delicate gradation of abundant half tone in conjunction with breadth and atmosphere in our pictures. If it is desired to produce the latter, the exposure may be increased to a great extent without damage to the resulting effect, provided that during development proper precautions are taken not to spoil the effect by a too quick development of the negative.

I must here impress upon you, that long exposures cannot be given with success unless the plate is backed with some suitable substance, applied in optical contact to the back of the plate. Here lies the success of prolonged exposures, and I find in practice that a plate backed in this way will stand double the ordinary exposure to one which is unbacked. With full exposures we secure finer gradations of distance, and what is termed " atmosphere " in a picture, which we could not possibly obtain with a short exposure, though frequently the shorter exposed plate gives the more pleasing negative to the eye. Backing plates is a safeguard against many pitfalls to which bromide plates are liable, and in most cases proves of great assistance in the production of good work from any kind of subject. You may rest assured that it will not cause any deterioration in your negatives, and will certainly be beneficial in its results. I would suggest to our young members an experiment, for their own satisfaction, on this point. Take two plates of the same batch, use one backed and the other unbacked; give normal exposure to the unbacked plate, and double exposure to the backed one; use suitable development for the prolonged exposed plate, and I think you will be surprised at the result. Of the most suitable development I will speak at a later stage of this paper. Do not under-expose on any subject; you may force a plate during development, but you cannot make a satisfactory negative from an under-exposed plate.

The time of day at which exposures are made is an important factor in producing satisfactory negatives. During the summer months the best time is between the hours of six and nine o'clock in the morning, and from three o'clock until dusk in the afternoon. You can get better atmospheric effects in the early morning, which. in open landscape, gives better perspective to the distance in your view. After the sun has risen in the sky this is driven away, leaving everything clear and crisp, a state of things which does not always add to the beauty of a picture. A more brilliant picture can be got by working a little against the light, or the light as far to right or left of the camera as possible. This must be left to your own judgment, for all ideas do not coincide on this point. The middle of the day, that is from 12 to 2 o'clock, is the best time for making exposures of interiors. Work when the sun shines on the roof—not through the windows. By this means you can minimise the effects of halation. Do not take any subject when the light is unfavourable to get the best effect out of the view desired. "All things come to those who wait," and it is better to return from a ramble with three properly lighted and exposed pictures that to have six flat and indifferent negatives. If you are following photography with the intention of making pictures, you will be better pleased with the results obtained from the lesser number; and do not be content to produce common-place work. Study the works of Mr. H. P. Robinson, Mr. Gale, Mr. A. Pringle, and others of the first position in photographic matters, and try to get as good results from your own work as they produce from theirs.

I have not mentioned in this paper anything bearing on instantaneous exposures, because I hold the opinion that shutter work is the most difficult that any young amateur can undertake. You might, out of many exposures, have one success, but "one swallow does not make a summer." Remember the adage "A raw recruit perchance may shoot great Bonaparte." I don't know anything more disappointing than to have a solitary success. Learn to climb every rung of the ladder in ordinary work, then you will be in a position to go in for shutter work if you wish to do so, and with a better chance of success attending your efforts.

It is impossible to give hard and fast lines for exposures, as there are so many things which determine the length of exposure to be given. Your own experience will be the best of guides, but I wish to impress one or two things on your memory before I close this part of my paper :—

1st—The actinic power of the light, more especially as regards the lighting of the shadows.

2nd—The style of subject in hand, and the effect it is desired to produce.

3rd—The speed of the plates used. For landscape work I advise slow plates.

4th—The stop you work with, and the speed of your lens,

These are the four principal points which present themselves to my mind as the most important to secure successful exposures, and I hope you may have picked up some stray hints to benefit your work

Development is the most difficult part of my subject to-night, and I am sure that every one present must own that development is the key-stone of a good negative. There is no royal road to success in this branch of photography, and it is where the tyro is left almost to his own resources. Col. Stuart Wortley said at a meeting of the Photographic Society of Great Britain "The development of plates is a science, but I can teach anyone how to make them." And a truer fact was never uttered. Nearly every plate requires humouring in development, and the point to find out is how to humour its peculiarities correctly. Development is a thing that cannot be hurried. Many times have I been astonished at the speed at which some amateurs develop their negatives, but you cannot secure the best results by hurrying a plate during development. Learn to develop *properly.* Aye, there's the point. What is proper development? I feel to-night that it is a most difficult question to answer. I shall give, therefore, my own mode of developing, and the reasons and authorities to substantiate the same, only hoping that someone may be benefitted by the mode of procedure given. Developing formulæ are legion, and the cry is "still they come." If you have a good formula, giving good results in your hands, I do not ask you to change it. If you like to try my method, and you are better pleased with the results than with your own, I shall be pleased to have given any wrinkle to you on this subject. I may say, at the outset, that I decidedly prefer slow development. By this means you keep your plate more under control, you can judge at your leisure what change is taking place during development, and modify your action accordingly; therefore I advise young beginners to go in for slow development, which gives a finer deposit of silver in the film than can be got by quick development, and the finer the deposit the better the negative. Quick development tends to give hard negatives, and consequently hard prints.

As I advised long exposure to be remedied during development, I cannot do better than give the manner in which I work. First, I use a developer advised by Col. Stuart Wortley, made up as follows:—

No. 1.

Pyro	44 grains
Sulphite Ammonium	132 grains
Water	1 ounce

10 minims of this is equal to 1 grain pyro.

No. 2.

Bromide Ammonium	14½ grains
Liquid Ammonia ·880	152 minims
Water	1 ounce

For developing, take 20 minims of No. 1 to each ounce of water, and of No. 2 begin with 3 mimims to each ounce of water and work gradually up, giving plenty of time for each addition of the ammonia solution to exert its influence on the plate. This developer can be used over again for three plates without the negatives showing any signs of staining. Of course, each separate plate developed will need a further addition of the ammonia solution to work up to density required. Begin with the normal strength of the pyro solution, and small doses of the ammonia solution, as advised, and work up to what you consider to be a good negative.

A good way to begin developing a day's exposures, is to select a plate of the smallest importance, providing you have such in your day's work. Soak the plate in clean water, passing a camel-hair brush over the plate to remove any air bubbles that may have accumulated; pour out the water and drain the plate. Now add the pyro solution to the correct quantity of water, and allow the plate to soak for a minute or two. Then proceed with the small dose of ammonia solution, and wait until the image begins to be visible. You will now see the character of your exposure, which may be judged by the rate of its progression, and the amount of detail shown in the faint image. If the deeper shadows show a want of detail, whilst the other parts are gaining in density, mix a few drops of ammonia solution in an ounce of water, and with a suitable camel-hair brush help out the details, taking care to have the brush well charged with water during the operation; this you can easily do without increasing the density of the rest of the image. A good way is to raise the side or end of the dish until the developer only touches that part of the picture requiring local assistance. This will, probably, only be required in cases where there are heavy shadows, or the image shows a want of proper exposure.

In cases of full exposures, which I have before recommended, as soon as all the details are out, and before the shadows begin to veil over, pour the developer into your developing cup, and add, for every ounce of solution, 20 minims of a solution of citrate of ammonia. Mr. Wilson, of the Paget Plate Co., is the gentleman to whom I am indebted for this wrinkle, and it is one of the greatest aids to successful development ever used. The formula is as follows :—One ounce of citric acid dissolved in ten ounces of water, and sufficient ammonia added to neutralise it to the faintly acid side of neutrality. Add the quantity required for the amount of developing solution used, and immediately flood the plate with it, allowing it to remain for one or two minutes, then, by the addition of more ammonia solution, proceed to develop up to any degree of density required. Development may be proceeded with to almost any extent, and that without veiling the shadows. Here we have an agent which can be used in development to correct any mistake made by over-exposure, but it is always better to give an exposure as approximately correct as possible. I do not advise indiscriminate over-exposure ; there is reason in all things. Under-exposure cannot be satisfactorily rectified, but the effect of over-exposure may be controlled during development. The great point to be observed in using citrate ot ammonia is to allow development to proceed to the exact point at which it is desirable to apply the citrate solution. After a few trials this point is easily determined, but judgment must be used in so doing. Mr. G. Bankert, a well-known amateur, advises this method of development very strongly, and states that citrate ammonia gives soft negatives full of gradation and half tone, and also preserves the clearness of the shadows. Bromides, when used as retarding agents, seem to produce hardness of detail in further intensification. I would advise a trial of the above method, no matter what developer you use. The citrate of ammonia can be used in conjunction with most developing formulæ.

The principal methods of development in the present day are pyro and ammonia, ferrous oxalate, and, of more recent date, hydroquinone and hydroxylamine, but the two last mentioned are more in the experimental stages than in general use ; of these I cannot give any particulars, being quite content to leave them alone to-night.

In the circular calling our meeting to-night, it is stated that I shall say a few words upon halation. My remarks upon this subject will be very brief. There are several reasons put forward as the cause of halation, and, personally, I cannot give any decided opinion, but shall content myself with giving a method by which it may be greatly obviated. If plates were coated with a sufficient thickness of film this defect would not occur, but as plates are not so coated, other means must be used to attain the desired object. The only successful remedy is to back your plates. Brunswick black is the best backing, but it is not pleasant to use, and is hard to remove, especially if allowed to thoroughly dry. The easiest mode is to use burnt sienna, ground in water, and made the consistency of cream by the addition of dextrine and water. Apply this to the back of your plate with a small piece of sponge, taking care to thoroughly paint the back of your plate with it. A good way to do this is to lay the plates face down on a clean surface and apply the sienna, then allow to dry before placing them in your slides. After exposing, the substance can be removed with a damp sponge, or it can be allowed to dissolve off the plate in the developer, but the first way is the cleanest and most preferable. This is an old wrinkle, but I find it the best. If halation does occur, it can be removed by the following method :—Dissolve one ounce of potassium ferricyanide in ten ounces of water; take 40 drops of this, and add 40 drops of ordinary hypo solution. Immerse the negative in water, and with a small camel-hair brush apply this solution to the part affected by halation, flooding the negative in water after each separate application of the solution. This is important, as markings are sure to occur if care is not used, ferricyanide being a very powerful reducer. By this means the trouble of halation can be removed, and details in the negative which were entirely obscured, brought to printing quality.

In conclusion, a few words of advice to our young members :—

Don't buy so-called cheap apparatus if you wish to succeed in doing first-class work.

Don't use half-a-score different makes of plate, and think all will work alike.

Don't find fault with your tools before you are certain the workman is not to blame.

Don't imagine you can learn al labout photography by simply reading an A B C Guide on photographic matters. Practise yourself until proficient.

Don't go in for instantaneous work if you are only just beginning photography.

Don't think you can master the giant without tact and patience.

Don't use everybody's formula and expect to get good negatives.

Don't try to hurry development, the best results come from slow development. Remember the tortoise was the winner of the race.

Don't under-expose, it is fatal to good work.

Bromide Printing.

By the Editor.

IT is said that silver printing is going out. Now, although we have an undefinable attachment to it, as an old friend, we are inclined to say "Good bye" to it. The strange freaks it is subject to, and the sustained attention which it demands from its admirers are too much for human nature. The majority of the prints shown at the recent photographic exhibitions throughout the country are bromides or platinotypes, and they tell the same tale, that silver printing is on the downward grade, that it is being supplanted by something better—better in effect and entailing less trouble. Previous to the introduction of bromide paper, the really enjoyable branches of photography consisted in the taking of the photograph and the development of the negative. The afterwork, including the printing, toning, and prolonged washing was simply misery long-drawn-out, or endured, like doctor's medicine because there appeared no way of avoiding it. No wonder that so many who can afford it, send these departments of work out, to be performed by someone else. We can quite understand that there are cases where these latter processes give pleasure; for instance, the beginner will enjoy them, because he is learning something which is new, and which it is necessary for him to know; but when the freshness is off, he will wish this watching of frames, and endless washing were far enough. The programme is altogether too slow, and the skill that it requires receives very little appreciation from anybody. Even the professional photographer generally evades the drudgery of these branches of his work; he acts until the negative is produced, and then hands it over to his girls or other assistants to complete the almost mechanical and tedious operations which follow. The amateur is placed at a disadvantage, for his girls do not take kindly to this following-on-work; they prefer another class of following. But how are the difficulties to be avoided? Briefly, using less albumenized paper, and adopting bromide in its place. If this course is taken, the pleasure will not end with the development of the negative, nor will the peace of the household be so often interrupted by strong expletives. Notwithstanding what we have said in depreciation of silver printing we do not wish to be understood as urging its entire abolition—we simply say, do less of it. Doubtless it will be employed for a long time to come for such purposes as it suitable for, but most certainly it is the wrong medium with which to render landscapes with the best effect, and the sooner it is relegated to the professional for cartes and cabinets, the earlier will photography be recognised as associated with art.

For the amateur bromide printing possesses many advantages over silver, and although we admit there are disadvantages also, such as the difficulty of combination printing, yet the comparison is greatly in favour of the bromide. One of the most important of these advantages is that it can be worked in the evening by gaslight, and in consequence, is quite independent of the weather. Winter with its gloomy days makes no difference, except that the long evenings are a decided gain, and can be made to yield an additional pleasure. There is no necessity even to use the dark room, which is often a make-shift arrangement, and is cold and cheerless in the winter months, for with the exception of the final washing, all the operations may be undertaken by the fireside, in a sitting-room, or any other convenient apartment. Let us suppose that an ordinary sitting-room is used, which is illuminated by gas in the usual way. All that is required is to all allow the fire to burn down to a red glow, to spread a newspaper or sheet of brown paper over the table, and place upon it the few bottles of chemicals, three dishes, and a measure from the dark room. We do not wish to introduce a source of discord between any man and wife by these suggestions, and should any trouble arise, the photographer has only himself to blame ; we shall not be held responsible ; he should learn to perform all his self-allotted tasks in a careful and tidy manner. We have always held that carefulness goes a long way to making a technically successful photographer, so that we shall assume that this excellent quality is fully exercised. A red lamp will be required on the table. One of the best is obtained by purchasing a small paraffin oil lamp, usually costing 6d., and painting the glass chimney with two coats of light red oil paint. The light of this can be turned up or down at will. Two jugs, one containing clean water, will also be wanted, the empty jug is to receive the spent developing solutions, &c. It will be an improvement if the gas light can be placed low down on the table, by means of an india-rubber tube attached between the chandelier or bracket and a standard, such as is often used for reading purposes, but this is not a necessity. When all is ready, pour out some of the clean water into one of the dishes, mix the developing solutions in the measure, light the dark room lamp, and then turn down the gas very low. Place a watch near the lamp to check the exposures, &c., by. A sheet of the bromide paper should now be placed in contact with a negative in the printing frame. The face of the paper is known by its tendency to curl upwards slightly, the emulsion with which it is coated causing a contraction of the surface. After seeing that the stock of bromide paper is carefully covered, the gas may now be turned up and the exposure made. For an ordinary negative, with Eastman, or Ilford slow paper, an exposure of 1 to 1½ minutes at one foot from the gas is about correct ; but if the negative is very dense it should be held closer, say six or eight inches away. The colour and quality of the negative must be judged prior to the exposure, or a test made by a slip of the paper. A stained negative being somewhat non-actinic the light has difficulty in penetrating it, and a prolonged exposure is necessary. If the negative is thin and weak all over, as an over-exposed plate usually is, it will require to be placed further from the gas. Three minutes' exposure, at three feet from the light, will often give good results from this class of negative, but at times it is even necessary to considerably exceed this distance and time. A negative which has been under-exposed. and has portions very dense and other parts very thin, will require special treatment. The weak portion must be shaded while the dense parts are being held near the gas; afterwards it should be removed further from the gas, the shading material taken away, and the exposure continued for the thin portion. A piece of paper or cardboard, with a torn irregular edge, and kept moving during the exposure, is suitable for shading purposes. Vignetting is nicely accomplished by cutting the required shape, slightly reduced, in a piece of cardboard, and after fixing the negative at the proper distance, moving the vignetter backwards and forwards between the negative and the light. This will produce a soft edge. Daylight is very uncertain, the light being too intense; but with gas, almost any variation in colour or density of negative may be successfully dealt with, by reducing or increasing the flame, the distances, or the length of exposure. Even the faint details in a thin negative, which cannot be retained in a silver print, can be shown very presentably by the treatment suggested.

The slowest bromide paper in the market with which we are acquainted is the Eastman, but it gives very pure high lights. "Ilford slow" is almost twice as quick, while "Ilford rapid" is about fifty times as quick as the Eastman.

After the exposure, the gas should be turned down till nothing but a small blue flame is seen on the burner; the printing frame is opened, and the paper immersed face downwards in the bath of clean water for about a minute. So that the water shall act evenly, and air bubbles be avoided, the paper should be drawn into the water by the edge, only the extreme edges of the paper being held by the finger ends. It should then be taken out and placed face up in an empty bath. The developing solution is now poured upon the paper, and the bath rocked freely to produce equal action of the developer. The time should be observed, so that an idea may be gained of the correctness of the exposure. Some developers are very slow, for instance, that given as "B" in a former paper (see No 7. *Photographic Record*, page 160), takes about ten minutes before the image begins to reveal itself.

This is because the accelerater is weak and restrained, and in consequence it cannot be considered an ordinary developer, though it makes a pleasing tone. Something quicker is wanted for general practice if the work is not to become monotonous, and from a half to one minute should be sufficient to start the image. About three minutes should complete the development. The following is a good iron developer giving a purple-black colour free from strong contrasts, and is well under control.

No. 1.

A Saturated Solution of Potassium Oxalate
Ammonium Bromide, 3 drops to each 5 oz. of the above.

No. 2.

A Saturated Solution of Ferrous Sulphate
Citric Acid, 20 grains to each 5 oz. of the above.

To make 2½ ounces of the above, take—

No. 1 - - - - - - - - -	1 ounce
No. 2 - - - - - - - -	¼ ounce
Water - - - - - - - - -	1¼ ounces

No. 1 and 2 should always have a few undissolved crystals at the bottom of the bottles. Whenever any portion of No. 2 is used, the bottle should be filled up with water so as to exclude the air, and from time to time a few grains of citric acid added to prevent the iron from oxidizing.

If the picture shows signs of developing unequally, the dish should be tilted so that the solution may run off the fully-printed portion and remain on the part which requires the extra development. Another plan is to pour all the solution from the dish before any part of the image is fully developed, and then work out the completion with a camel hair mop dipped in the solution. The dish should be elevated at one end while this is being done. When any part is finished, squeeze the moisture from the brush with the fingers, and pass it over the completed portion so as to absorb the solution on it and stay further action. The remaining parts should have additional solution supplied by the brush until a satisfactory result is obtained. Don't attempt to stop the development with water, or a degraded colour will be produced wherever it is applied.

When the development is complete, the print should be transferred to another dish to be acidified. The removal of a print from one vessel to another is greatly assisted by using the handle of a teaspoon to lift the edge of the paper. Especially if hydroquinone is used will this little help be appreciated, because this developer imparts a slippery feel to the print, and softens the texture of the paper. Care should always be used in handling, so as to avoid any abrasion of the surface.

(To be continued).

Two Hours Abroad.

THE November meeting was devoted to a special Lantern Exhibition; the whole evening, after transacting the formal business, being occupied by two members—the Rev. H. J. Palmer, M.A., and Mr. F. Deakin, of Chorlton-cum-Hardy, who presented upon the screen some of the results of their travels abroad during the year. Both these gentlemen may be complimented upon having produced a series of most interesting pictures, possessing real technical merit, besides being quite unique as views. The frequent and hearty applause of the audience testified to the admiration which prevailed, and the interest was sustained to the end. Those who were absent most certainly missed a great treat, only some very faint idea of which will be gathered from the notes now given. The scenes were described as they were presented on the screen as follows:—

Scenery and Cities of Southern France.

By Rev. H. J. Palmer‘ M,A.

Mr. Palmer's descriptive lecture began with an account of Bordeaux, with its quays, cathedral, and Roman palace of the Emperor Galerien. Thence, he took his audience through the Landes with their stilted peasants and vast extent of Pinados. Pau, with its old chateau of Henry IV., received ample attention, and was illustrated by twenty slides, among the most successful of which was the panorama of the Pyrenees from the terrace. Excursions were made into the Pyrenees from the three centres of Laruns, Pierrefitte, and Luchon, and some very lovely pictures of snow peaks and mountain villages were presented on the screen. Of these the most interesting were the small chapel of our Lady of the Snow, backed up by three of the loftiest summits of the range, and a view of Mont Mandit, closing with its glaciers the valley of Luchon. Lourdes, Poulouse, and Nismes, were next visited, and the splendid Roman buildings of the latter place were well shown by about two dozen slides. The wonderful Pont de Garde, the most vast of existing Roman aquaducts, came next in the series of views, and the tour ended with numerous pictures of Arles and its amphitheatre; Orange, with its noble arch of Marius; and Avignon with its palace of the popes. The whole set of pictures had been taken on Mawson's plates, developed with a soda developer.

Algiers and Constantine.

By Mr. F. Deakin.

It was on Saturday, the 23rd of February last, at noon, that I and my companion found ourselves at the Prince's landing stage, Liverpool, along with our luggage, fully insured against accidents by sea and land. The steam tender (which was to convey us to our berths on board the Ocean s.s, Company's steamer, "The Palamed," bound for Shanghai and Japan), was timed to leave at 1 p.m. Imagine our consternation when we saw the heavily laden steamer slowly forging ahead off Seacombe, and no tender at hand as yet—at least so our porter told us in answer to our repeated questions. Finally I said to him, "Well, I must see for myself," and I walked along the stage to survey the various tenders, and the very first one I came to was waiting for us, and us only. I rushed back, and of course complimented the porter on his perspicacity. "'Tis India y'ere going to; a'int it, surr?" "India! Nothing of the kind; Alfred Holt's boat I told you, didn't I?" "Is't the Chineyse ye mane, surr?" "Of course." However, "all's well that ends well." The missing names on the roll-call accounted for, the hawser slipped, and we are off. (View shown.) In ten minutes we are alongside "The Palamed," off New Brighton, and quickly traverse the gangway. Luckily, we have no parting tears to shed, and can now devote the whole of our thoughts to ourselves, and I must say the thought uppermost in my mind was a most unpleasant reflection, soon followed by a most unpleasant feeling, which in my own case passed away without any crisis. It was otherwise, "very much otherwise" with my companion. I recollect that four biscuits and six oranges were all that he required during the four following days.

We will now look at the chart—(view)—so that we may fully understand the route travelled. With Liverpool as our starting point, we passed by the Crosby Channel into Liverpool Bay, and there confided a letter to the pilot as he dropped over the side into his cutter. That letter reached home five days' afterwards.

The Guion steamer, "Alaska," passed by us in fine style, although we were steaming 10 knots and 13 over the ground, the tide being with us. The quarter part of the next day was occupied in passing the Bristol Channel, and the day following we were in the Bay of Biscay. The "fiddles" were in requisition on the tables in the dining saloon, and I found that the most expedient way to catch the soup as it swilled round my dish was to wait until it came over to the spoon.

The roll on the Bay of Biscay is certainly not one of the "Pleasures of Memory." Of C. Ortegal and C. Finisterre we saw nothing, nor did we wish to, as only three weeks previously the "Priam," belonging to the same company, was wrecked, and foundered within two minutes after striking, off Sasargas Island, near Corunna and seven Lancashire passengers were drowned, and two of our present company were going out to Penang to replace the lost ones. The story is too sad to relate.

Our captain prudently did not "hug the shore" as some do, and the first land sighted was Cape Roca, Lisbon; then in the afternoon Cape Finisterre—(view)—of which I secured this view.

On Friday noon we were signalled "off Gibraltar." The Straits are very wide. The distance between Spain and Morocco varying from 7 to 11 miles, between the Fortress of Gibraltar and Cape Centa 11 miles, so that our key to the Mediterranean is only a coaling station after all, and *certainly* does not command the entrance, as is generally believed. Here I took an instantaneous shot at a whale—spouting—but on developing I could not find the whale.

On Saturday morning we anchored off Algiers, the first stoppage, and our destination. Thirteen days later we traversed the Mediterranean by the Gulf of Lyons to Marseilles, and thence overland *viâ* Lyons and Paris, to Boulogne and Dover.

And now while we are dealing with serious matters, we might have a look at our patient; "T'was off Trafalgar's Bay," and he has been in his berth four days. The fourth day while I was occupied in photographing the officers taking their observations—(view)—our attention was arrested by the startling spectacle of all that remained of my companion, tottering along in a most unseamanlike manner. He promptly spread his rug just over the grating which ventilated the cook's galley. "We had all sat there before," and knew what goodly smells were in store for him. "That cook had been 20 years in the service" and could make a splendid variety of dishes—those that he made for the crew were anything but appetizing! The doctor and I quietly watched him, and very soon perceived that this time it was "bacon and eggs." Our friend winced a little and then began to blanch, if that were possible. Then looking up, he very plaintively remarked, "anything of this sort is certainly very trying to those that are in anywise inclined to be a little bit squeamish!"

I saw what would happen next—(view)—and took up a position behind the charthouse. Going down upon my knees and holding my camera in my hand, I waited (not very long, however), before I had secured two snap shots, and the picture before you is the result. (View.) After this he soon gained his sea legs, and this picture gives the ideal of "Life on the Ocean Wave." (View.) All, however, cannot remain on deck, and those most to be commiserated are the stokers—Lascars from the East Indies are generally employed. Here are two of them—(view)—just come on deck for a glimpse of sunshine, and a breath of fresh air. Poor fellows, it frequently occurs that during the passage of the Red Sea, in April and May, they become delirious, and despite a careful surveillance they often commit suicide by jumping overboard. These are some of our passengers—(view)—and our patient amongst them ; the third officer is in charge, and is checking the sextant readings, which are being taken by the first and second officers and the captain. After a splendid voyage we reached Algiers at six o'clock on the Saturday morning.

"It was about the year 935 that Algiers—(view)—was first founded under its Arab name of Al-Gezira, by the Arabian Prince Zeiri. Later on, in 1492, the Moors and the Jews, who had been persecuted and driven out of Spain, settled in Algiers, and thence revenged themselves on their Christian persecutors by piracy. After this the city suffered various vicissitudes at the hands of the Spaniards and Turks ; the latter, at length, in the beginning of the sixteenth century, becoming masters of its destinies for a considerable period. Various attempts were made to crush this nation of corsairs. It was first bombarded by the French in 1682. An incident then occurred which shows the reckless barbarity of these wretches. By way of answering the cannonade the Dey caused the French Consul to be shot from the mouth of a mortar ! After the third bombardment, a few years later, the Dey scornfully inquired of the French how much the burning of Algiers cost their master. On being told, he coolly replied that, 'he would have done it for half that sum, and spared their king the trouble.' In 1815 it was bombarded by the Americans, and in 1816 by the English and Dutch, under Lord Exmouth, who caused the relief of all Christian slaves, and besides obtained a promise to abandon piracy. But no treaties could keep these wretches from their piratical depredations, and for fourteen years longer they remained the terror of the Mediterranean. In 1830 an incident occurred which for ever put an end to Moslem rule. It was during the Feast of Beiram, when the Dey was accustomed to receive all the consuls publicly. He asked the French consul why he had not received from his sovereign an answer to some matter long pending. The consul haughtily replied, that 'a King of France could not condescend to correspond with a Dey of Algiers.' Upon this the Dey struck him with his fan in the face. In consequence of this insult the French blockaded, bombarded, and ultimately captured the city. (View.) It took the French nearly forty years to become masters of the country ; and it is stated that the possession of Algiers has cost the French nation the lives of 150,000 men, besides one hundred and twenty million pounds in money."

(To be continued)

Wide Angle Lens.

Eikonogen.—The following formula for this developing agent will be found to be simple, besides giving splendid detail, with plenty of density:—

No. 1.		No. 2.	
Eikonogen - - -	120 grains	Washing Soda -	120 grains
Sulphite of Soda -	1 ounce	Water - - - -	12½ ounce
Water (cold) - - -	12½ ounces		

To make 2 ounces developer, use—

For Ordinary Exposures.		For Instantaneous Exposures.	
No. 1 - - - - - -	½ ounce	No. 1 - - - - - -	1 ounce
No. 2 - - - - - -	½ ,,	No. 2 - - - - - -	1 ,,
Water - - - - - -	1 ,,		

If image requires restraining use a few drops of a 10 per cent. solution of potassium bromide.

The quantities may be varied to suit the subject.

To Preserve Mountants.—Starch, glue, paste, and other mounting solutions may be preserved for a considerable time from decomposition by adding one grain of sulphate of quinine to each quart of the mountant.

Developer for Lantern Slides.—The following developer is strongly recommended. It is in one solution and will keep for a month at least:—

Hydroquinone - - - - - - -	10 grains.
Sodium Sulphite - - - - - -	40 ,,
Potassium Carbonate - - - - -	30 ,,
Water - - - - - - - - - - -	2 ounces.

Above quantity is sufficient for one dozen of slides.

Correspondence.

NEXT RAMBLE SEASON.

To the Editor of the *Photographic Record*.

Sir,—In preparation for the next ramble season I would like to suggest a few united rambles with some other society in this part of the country. A couple of years ago there was a whisper that the Birkenhead society had made an offer to us in this direction. Why was it not accepted and the scheme brought before the members? A little friendly rivalry would do us no harm, but promote *esprit de corps*. Six or a dozen members of each society might be deputed to represent their respective organisations in a contest. They would photograph the same district on the same day. After the united results had been exhibited at each society's meetings, the pictures might be awarded to the society that made the best set. I simply wish to suggest the idea now, the other details could be easily worked out afterwards.—Yours, &c., X. Y. Z.

[A letter has been received from Mr. Steventon in answer to the one signed "A Peripatic Photographer" in our last. Unfortunately, want of space compels us to omit it for the present.]

"As others see us."

Some very complimentary notices of our Society and its *Record* have appeared from time to time in the photographic magazines. As it is possible that some of our members have not seen the following, we reprint these extracts for their edification :—

" *The Photographic Record* is a neat little quarterly of twenty-four pages and wrapper, issued by the Manchester Amateur Photographic Society, and it not only records the doings of the Society, but also gives answers to questions and a selection of concise items of interest. As might be supposed, it principally circulates in the Manchester district, and, although marked " price threepence," the sale of it is not pushed Every member of the Society receives a copy by post, and, as there are 355 members, there is a certain circulation, which gives it a value to local—and, indeed, to other—advertisers."—*Photographic Review.*

" *The Photographic Record.* The organ of the Manchester Amateur Photographic Society. The editor, the hon. secretary, and the members of the M.A.P.S. may be congratulated upon such an amount of activity as this *Record* of their proceedings indicates.

" From its very readable pages we gather that the ramble season has been fairly successful, good work having been done at all their outings; while the cyclist section has had some half-dozen capital runs, principally in Cheshire. With respect to the photographic apparatus belonging to the Society, it is announced that an enlarging lantern, fitted either for lime or oil, has been recently added.

"The Manchester Society seems to be taking the lead in kindly actions and in efforts to raise the taste of the masses- Mr. Horsfall, the honorary secretary of the Art Museum in Ancoats, is engaged in carrying out a project by the Museum for presenting, for the decoration of the homes of some of the poorest inhabitants, copies of pictures by the great masters, with such occasional descriptions as may lead to an intelligent appreciation of the great and elevating stories which such pictures are intended to convey. Mr. Horsfall's latest move in this direction is to add to the collection of pictures a series of photographs of British forest trees, both in their summer and winter garb. 'I find the work,' he says, ' extremely difficult for one person to accomplish, and so I venture to appeal for help to other amateur workers all over England. What is wanted is in each case a picture of a good average specimen of the tree, and not an abnormally fine one. I have found tree photography beset by difficulty, and this will render such a series of pictures all the more valuable when it has been made.'

" We very gladly give publicity to the laudable and kindly efforts of the Manchester brethren in this matter, and wish them every success.

"Besides the accounts of the proceedings of the Society, the *Record* contains two little essays on photographic subjects which are well worth reading, entitled respectively, "Philanthropic Photography," by Rev. H. J. Palmer, and "Developing Experiences," by Mr. A. C. Harrison.

"We look forward to the quarterly issues of the *Photographic Record*, in the full expectation of finding much to interest and amuse."—*The Camera.*

Question Box.

Developer for Lantern Slides.—Which is the best developer for lantern slides, to bring out minute details, ferrous oxalate or hydroquinone?

Ans.—It is generally acknowledged that hydroquinone brings out the most detail.

Soft Gelatine.—I am wanting to make up a mounting formula of Mr. Wall's, which is composed of soft gelatine, &c., and have tried to obtain this gelatine at about half a dozen chemists (not in Manchester) and they do not keep it, and cannot tell me what it is. Will some member say what this is commercially known as?

Ans.—It is commercially known as "soft gelatine," and may be obtained from Mr. Chapman (see advt. for address).

Ferrous Oxalate for Bromide.—Has any member, in using the ferrous oxalate developer as recommended for Ilford's slow bromide paper, found a difficulty in making the solutions mix and remain clear (the iron was added to the oxalate). How can I overcome the difficulty?

Ans.—The solutions should be distinctly acid, and the glass in which it is mixed quite clean. See paper on "Bromide Printing" in this number.

Wide Angle Lens.—I should be glad of the opinion of the Society as to whether a wide angle, say about 50 to 60 degrees, or a narrow angle lens is the best for landscapes? On consulting books I find the following various opinions, and as they are somewhat opposed to each other, I am no wiser than before.

A says "The only suitable lens is a wide angle."

B says "For landscapes a wide angle is useless, as it distorts the perspective."

C says "Owing to the greater equality of illumination, a wide angle is much superior to the narrow."

D says "The narrow preserves the perspective, and gives sufficient angle for pictorial effect."

E says "A wide angle should only be used for architecture."

F says "By all means a wide angle, but of a size larger than the plate it is to be used upon."

G says "A wide angle must be added to make the kit complete, but should never be used."

Ans.—The question is entirely one of opinion, one man being anxious to cram all he can on the plate, while others prefer a more moderate angle, according to their artistic taste, and only use a wide angle under compulsion. Painters usually object to a wide angle lens, because distant features are dwarfed by its use. The collection of opinions given in query is quite interesting, as showing the notions which prevail.

Lantern Slides.—Does the Society own any sets of slides?

Ans.—The slide cabinet is under the charge of Mr. Davenport, as notified on each monthly circular.

Library.—Where is the library?

Ans.—It is placed in one of the small rooms on the Athenæum back staircase; entrance: right hand side of platform in large hall.

Developers.—Which gives the better result, potash or soda developers? Give quantities.

Ans.—The results from the developers named depend upon the plate used, and the effect desired. An abundance of formula has been given in back numbers.

Tylar's Window Shutter.—Has any member had any experience with Tylar's window shutter? How would this work for detective camera?

Ans.—Drop a line to Mr. Tylar, Birmingham, he will gladly reply.

Shutter.—Which is the cheapest self-acting shutter, *i.e.*, one requiring no resetting, which could be used for detective camera, and what is price of same?

Ans.—We are not acquainted with any shutter meeting all the requirements named Mr. McKellen has a good one fixed to his detective camera

Clearing Lantern Slides.—Is it necessary to use citric acid in clearing magic lantern slides, and if so, what quantity?

Ans.—It depends upon the make of plate, and it is usually the best to follow the makers' formula.

Lantern Plates.—What lantern plates are the best? Do they develop best with hydroquinone or ferrous oxalate formula?

Ans.—Mawson & Swan's plates and the Ilford make were highly spoken of by members present at the meeting. Use the makers' formula, enclosed with the plates.

Bromide Printing. — Which is the best bromide paper, Ilford or Eastman's? What causes the print to grey over during development? Should the print be face downward during development, or otherwise, and how should it be kept under the solution (it is apt to float)? A few hints on bromide development would oblige. Can the developing solution be used over and over again?

Ans.—See paper on bromide printing in this number. The stains are caused by excess of accelerater in the developer, or prolonged development, or the light is wrong.

Reducing Camera for Lantern Slides.—Has any member tried Marion's new camera for lantern slide reducing?

Ans.—Mr. Bedford gave a description of this camera at the December meeting.

To Clean Old Negatives.—Being busy making lantern slides, and desirous of economising, I am wishful to know how to clean old negatives thoroughly, so as to use them for cover glass? So far they leave a slight deposit on the glass, which I wish to avoid.

Ans.—Use a hot solution of washing soda, then immerse in nitric acid, and afterwards rinse in clean water.

Sale and Exchange.

(Our Sale and Exchange columns are open to subscribers free; to non-subscribers a charge of 4d. will be made up to 12 words, and ½d. per word extra.

Wanted. A Rapid Rectilinear Half-plate Lens, 6in. focus; a Wray preferred. Address, Hypo. care of Editor, 46 King Street West, Manchester.

On Sale. A 5 x 4 Mahogany Camera, folding tail board, one slide. Carriers for ¼ plate and 3¼ x 3¼, tripod and portrait lens. Excellent for copying purposes. £2. Apply, Pyro, 46 King Street West, Manchester.

On Sale. Quantity of consecutive numbers of "British Journal" and "Photo. News." Offer wanted, or exchange for anything useful. Wanted 8in. or 9in. Condensers. A. L. Bostock, Eagle Mills, Manchester.

All *business* communications to be addressed to the Hon. Sec., Mr. R. O. GILMORE, Solicitor, 1B Cooper Street, Manchester.

Items for the Sale and Exchange Column, Correspondence Question Box &c., should be addressed to the Editor, Mr. GEORGE, WHEELER, 46 King Street West, Manchester.

THE

PHOTOGRAPHIC RECORD

THE ORGAN OF THE
MANCHESTER AMATEUR PHOTOGRAPHIC SOCIETY.

No. 11 APRIL 1890.

CONTENTS

	Page
General Notes	249
Binocular Vision and the Stereoscope	251
Ourselves	254
Photographic Survey of Manchester and Salford	255
A Photographic Survey of Manchester	259
The Annual Exhibition	262
The Lantern Slides	267
Correspondence	269
Our Wide Angle Lens	269
Question Box	270
Sale and Exchange	271

General Notes.

THE ramble season is at hand. The list will be in the hands of the members shortly, and it will be their own loss if they don't make good use of it. There is not another society in the Kingdom that offers greater advantages in this respect, than our own.

⁂

The Society Competition for a Challenge Cup in connection with the Crystal Palace Photographic Exhibition has gone against our Manchester Society. If we cry about it at all, it shall be the cry of the raven in "Barnaby Rudge:" "Never say die! better luck next time." Birmingham wins the prize, but Newcastle objects to the justice of the decision.

⁂

Another of our Members has obtained honours for superior work. Mr. J. Kidson Taylor has won the bronze medal in the "Amateur Photographer" monthly competition for best landscape or seascape. His picture was entitled "On the Dee, Chester." It was one of the prints chosen by our Selection Committee and forwarded to the Crystal Palace, as part of our contribution to the Society contest.

⁂

It has been decided that in future all Members shall exhibit their cards of Membership to the Commissionaire at the door, to gain entrance to the monthly meetings. It will save friction if a special note is made of this. Friends' tickets can be obtained from the Hon. Secretary, at his offices, No. 1B Cooper Street.

The Annual Meeting also agreed that an entrance fee of 2s. 6d. is to paid by all new Members; the sum to be paid down at the time of nomination.

In our last we referred to the pictures in *Sun Artists* as bearing "imitation plate marks." We were wrong, for we are assured that the marks are really genuine, and caused by the copper plate on which the photogravure is etched.

No. 2 illustrates H. P. Robinson, a past master in the art of picture making. It only needs to be seen to be appreciated.

⁂

The editor, Mr. F. C. Beach, of the 'American Amateur Photographer." has written offering to exchange his Magazine for our "Record." He also offers the "Proceedings of the Amateur Photographers of New York" on the same terms. We have gladly accepted his proposal, but are sorry we cannot forward anything like an equal amount of photographic literature to that we shall receive. The copies already received have been handed to the Librarian, and Members can obtain them from him for perusal.

The "American Amateur Photograper" is a monthly publication, octavo size, well printed, and beautifully illustrated. It contains many original papers, and is thoroughly readable throughout, which is more than can be said of all photographic magazines. May its shadow never grow less.

⁂

The Hon. Secretary of the Photographic Survey of the District has determined that the scheme shall succeed, and has formulated his ideas to this end in the paper printed elsewhere. He is enthusiastic; so he ought to be; the subject is worthy of it, and every Member ought to accord him the heartiest support he is capable of. There is no self-interest to be gained by leaders or followers; it is purely a public work for the public benefit. We are indebted to the disinterested public spirit of our forefathers, and we in our turn may hand down this memorial, testifying that M. A. P. Society was worthy of its day.

One thing is certain, we are fairly committed to the scheme, and the honour of every member is at stake. But we are well able to carry it through, if each Member will take a broad view of his position and display a generous spirit.

The article we reprint from the *Guardian* is an indication of the interest the public take in the survey. The gentleman who is the author of it was not a member with us at the time it was written, though he has since joined our ranks. He is to be complimented on the very comprehensive outline of our undertaking which he has placed before the public.

⁂

For want of space we are compelled to leave over the continuation of the papers on "Algiers," and "Bromide Printing" to our next.

Binocular Vision and the Stereoscope.

By Mr. W. I. Chadwick.

Read before the Society, March 11th, 1890.

THERE are about one thousand two hundred millions of human beings in the world, "mostly fools," Carlyle observed, but still more "mostly" furnished with two eyes, not more, not less, as universal—in fact, apart from accidents or "freaks of Nature"—is abundant evidence in itself that the reason for our having them *must be* extremely cogent. Not only has man two eyes, not more, not less, but the same rule extends throughout the whole of animated nature. It is true that there are certain apparent exceptions to this rule. The mole was long imagined (erroneously) to be blind, certain fishes which inhabit the everlasting dark waters of the Great Kentucky cave are said to have no appliances for seeing, and certain insects are said to have not one, but *several hundred* of lenses in each of their two eyes. These seeming exceptions, however, only prove the rule. In the absence of light, any number of eyes, whether large or small, would be destitute of use; and as for the number of facets in certain spiders' eyes, there use, whatever it may be, is clearly subordinate to the principle of vision with two eyes, as whatever number of facets we find, they are found upon *two eyes.*

What then is this enormously important principle of seeing with two eyes, or of binocular vision as it is termed? With a single eye we can form certain, nor very perfect notions of length and breadth; but two eyes are absolutely necessary to form a judgment of depth or thickness. Binocular vision then enables us to see things solid.

Writers on this subject are very fond of saying that the eyes suggest certain considerations to the mind, and propound, as it were, certain dogmas for its belief. This is one way of putting it, but it is not a good one. What the eyes suggest to the man who has been born blind, but who has received the power of sight from the instrumentality of the surgeon's knife is, that the objects which he sees, are in contact with the eye, and the suggestion is not true.

What the eyes do, is to present two pictures for the inspection of the brain, and what the brain does, is to learn through the instrumentality of the other senses, and by the process of experience what these pictures mean.

That the pictures of bodies as seen by the two eyes are not alike, most photographers already know, and it may be interesting here to state that Euclid (B.C. 300) proved that he knew that the pictures of bodies seen with two eyes are formed by the union of two dissimilar pictures—one formed in each eye.

To make this matter clear to all, let us suppose a photograph to be taken of this square box from any convenient position. It is clear we should produce an outline, such as would be seen by one eye placed in the position of the lens. Now remove the camera about two and half inches to one side, and we should produce another outline, but more of the one side than the previous one, and exactly what would be seen by the other eye. Then clearly the two pictures are not alike, and if the photographs were caused to overlap, they would not register, and we should still see two different pictures, for they could not be united as one. But if these two photographs could be placed side by side at a suitable distance, and the right eye photograph, viewed with the right eye, and the left photograph viewed with the left eye, the brain would combine them, and we should see only one, as in nature.

But everybody cannot see these right and left pictures with the right and left eyes separately, and the stereoscope assists us to do this.

When we see an object distinctly, we only see a point of that object *singly* at a time; all other parts are seen double and indistinct, because the image of them falls upon a portion of the retina that does not give distinct vision; and when we see an object distinctly, the optic axes are converged to the particular point of that object, and the nearer the object, the greater the convergence; thus, the more remote, the less the convergence.

The eyes are capable of being turned in their sockets with great rapidity and precision, so that the optic axes may be united at several points in succession by muscular motions which are almost instantaneous; and so it is by greater and less convergence that we can judge objects to be nearer or farther off. But this successive convergence is not necessary to the impression on the mind of solidity; the images which are outside the optic axes—indistinct or "out of focus"—make us *conscious of their presence*, and the mind associates them with distance or solidity.

[*Here a number of experiments were given, with diagrams drawn on the black board to prove the accuracy of what had been said.*]

If we hold this box at eighteen inches from the eyes, and converge the optic axes to the near corner, we shall see it distinctly, and at the same time we are *conscious of the presence of the other corners*, which we see indistinctly, and the brain will associate them with a solid object, and of a certain size.

[*Here other experiments and demonstrations were performed, to illustrate the fact that the correct position from which to view any or all photographs was equal to the focus of the lens employed.*]

And now, by remembering what has already been stated, we find ourselves in a better position to understand the theory of the stereoscope.

The stereoscope is an instrument which is intended to present two pictures to each eye for the inspection of the brain, and a simple form of stereoscope would be a plain box having a central division, with a correctly made pair of pictures at one end, and two holes about two and a half inches centres at the other end, and if, through these holes, the optic axes were directed, perfect stereoscopic effect would be revealed.

But now let us consider the size of the pictures and the dimensions of the box. If we were to look at a tree in nature, a mile away, we should see it with so little convergence of the optic axes as to be termed practically parallel vision, and as it is "by the greater or less convergence that we judge distance," we must view the photographic image at no greater convergence than in nature, if we are to appreciate its true distance, which, in the present case, is said to be parallel; and as our eyes are only two and a half inches apart, this fact at once fixes the images of the "tree" in each picture at not more than two and a half inches apart, thus each picture cannot be more than two and a half inches wide.

Now let us consider the length of box that would be necessary. With ordinary vision we cannot see the picture (or anything else) at all distinctly at a less distance from the eye than eight inches, thus the box must be at the least eight inches long.

It has been shown in my remarks on lenses, that to appreciate natural size, the correct distance from which to view a photograph is equal to the focus of the lens employed. This establishes the fact that at least an eight inch lens would be necessary to take the original negative, and as such a long focus lens for a picture only two and a half inches wide would not embrace sufficient angle to be at all times appreciated, wider angle lenses are more generally used, and so the pictures must be viewed at corresponding wider angles. To do this, the distance between the pictures and the eyes must be reduced, and the introduction of lenses is absolutely necessary. But to estimate the natural distances and solidity, the natural convergence *only* must be maintained; thus the centres of the lenses *only* must be used. But, it may be said, the stereoscopes in general are not constructed on this principle, and that is quite true, for the inventor of the Lenticular Stereoscope, Sir David Brewster, laid down certain theories and principles which have been followed by many posing as authorities on the subject, and which are incorrect, *absolutely wrong*.

The stereoscope of Sir David Brewster is provided with two lenticular prisms, mounted with their edges nearest together. (Sometimes, whole lenses are employed with their centres at two inches and seven eights or three inches apart, and so only the insides of the lenses are used, which is practically the same principle as prisms.) The images are refracted by each prism in an outward direction. But this forced convergence to objects which might possibly be a mile away is unnatural, for the tree already mentioned "situated a mile away," which would in nature be viewed by practically parallel vision, would now be seen by a convergence due to something held in the hand. Its distance, then, cannot be appreciated, and the impression left for the inspection of the brain is that of a *model* of a tree instead of a real one.

Although there remains much more on this subject yet to be said, and doubtless will be said, we conclude by adding for general information: that pictures larger than two and three-quarter inches wide are unsuitable for stereoscopic observation, and that there would be no advantage in larger sizes if they were suitable; that the difficulty experienced by many persons who have not hitherto been able to appreciate the stereoscope, is consequent upon the false principle of the refracting instruments that they have been using.

Ourselves.

The *Amateur Photographer*, commenting upon the past year of our Society, says:—

"The Manchester Amateur Photographic Society show a capital record for the year 1889 in the annual report which has just been published. The Society is the largest of the kind in the United Kingdom, 'and is still growing.' The accounts show a balance in hand of £44 8s. 10d. The Society's Journal continues to be a success, and is conducted with considerable ability. Many books have been added to the library. During the year, many papers have been read, demonstrations given, and lantern exhibitions held; many excursions have been taken and much good work done."

Referring to our annual exhibition, it says:—

"All the prints, transparencies, stereoscopic prints, lantern slides, etc., must be the members' *own work*. The lantern slides must not only be the members' own work, but must not have been exhibited at any previous exhibition of the Society. Other societies please take note."

Washing Operations.—Two of our Members who had been out with their cameras called at a friend's house on the way home. The lady of the house pressed to have the idol of her heart—a sweet little girl of eight years—photographed, and reluctantly our friends consented. While preparing for the operation they heard a scuffle in the next room, and a childish voice exclaim: "Potograf or no potograf, I'm not goin' to have my face washed wid spit."

Photographic Survey of Manchester and Salford.

By Mr. John Wilcock, Hon. Sec. to the Survey Committee.

IT would have been better if we could have had a full and clearly written paper pointing out what a good work our Society is undertaking in this survey. We are not only working for the present, by raising our Society in the estimation of those outside, but we are awakening to a sense of the duty which falls upon all who have the power of leaving the world better than they found it. As stated in the article on "Philanthropic Photography," printed in last October's "Record," there *is* an ethical side to our art, and the committee now hope to be able "to give help, teaching, or gladdening of some sort to other people." And not to other people only; this survey will be a source of pleasure to ourselves, from the moment it is commenced. Who will not enjoy the half-dozen prints which have been received of Belle Vue Goal, even after the next two or three months have elapsed? Or, who would not like to see Hanging Ditch as it is to-day, when the Corn Exchange and its surrounding buildings shall have been replaced with the immense structure now in contemplation? Manchester and Salford are in a process of continual transformation, and there is none of us but will relish the representation of the streets and buildings of our early days. "Can the history of a town be better written than in the stories of its principle streets—the scenes of its interesting events, the homesteads of its bygone worthies?" asks R. W. Proctor in his "Memorials of Manchester Streets." I wish every member of our Society would take the trouble to look at that book; it will give an idea of the purport of our survey, and the best reply to the question which many are asking, viz:—

What are we to photograph?

We might almost give answer and say: anything. The simplest row of jerry-built cottages, rearing each other up like the paper scenes of a toy theatre, has the strongest claim to be photographed, if only to show the morality of the building trade as it exists to-day. Each member might start at any street-corner of the city and expose his plates as he walks homewards, and not do wrongly. The answer is so wide, it is difficult to know where to draw the line. The following suggestions, however, will give some idea of what to photograph:—

1. *Places and Institutions that are permanent.*

This is seemingly paradoxical. If a place is permanent why photograph it? and further, what *is* permanent? Well, for examples, the Irwell and the Medlock are always with us—the views from every bridge in the city should be taken. Market Street and Deansgate are permanent, though continually altering their positions and aspects. The Cathedral is permanent, but its surroundings are always changing. *Views of and from a centre like the Infirmary, Exchange, or the Town Hall, will embrace a great deal of what we want.*

2. *Objects with Historical Associations.*

The railway station (and the bridge adjoining it) in Liverpool Road, said to be the first in Manchester; the Plague Stone at Old Trafford; Lady Byrom's house in Quay Street; the railway-arch in Hyde Road where the Fenians attacked the police van; these illustrate what comes under this head.

3. *Architecture.*

The interiors and exteriors of churches, banks, clubs, town hall, and other public buildings, would show the prevailing style; and there are excellent examples of the art in many of the mansions of local gentry, interior views of which would not be difficult to obtain. Then there are the old remains, gables, &c., of the past century, such as in Old Millgate and several interesting nooks and corners of the city.

4. *The Business Life of the City.*

This would embrace views of the notable warehouses, such as Watts's, Westhead's, and Rylands'; busy thoroughfares, as Market Street, Mosley Street, Piccadilly, Portland Street, King Street; centres of commerce, as the railway stations, market places, 'change; also the interiors of workshops, warehouses, and newspaper offices, during working hours.

5. *Habits of the People.*

This is a most interesting section of the survey. There is probably nothing more instructive than to know how our forefathers pursued their daily vocations, and occupied their leisure time. Under number four we have the commercial pursuits, here, we deal with the recreations of the inhabitants. An instantaneous view of a cricket match of fifty years ago would afford no small pleasure now. We want prints of all kinds of out-door games; the promenade in St. Ann's Square on market days and Saturday noon; the Flat Iron Market; Manchester Races; Whit Week processions: Bank Holiday Scenes; and Public Reading Rooms.

6. *Portraits.*

Under this heading we could make a survey alone, but it would not be practical to include them in the present one. However, we do need portraits of types and classes, singly and in groups, tradesmen in their working-clothes, factory girls, street hawkers, and such like.

7. *How the Poor live.*

Here, we have to deal with a most essential and difficult portion of our survey. Essential, for the life of the poor has more to do with the whole organisation of Manchester and Salford than might be thought on first considerations: and difficult, for how are we to get negatives in these dreadful slums? There is such a rapid change coming over the social life of the poor and working-classes, that coming generations will scarcely comprehend how this existed in its present circumstances. One half of a town does not know how the other half lives, but it ought to know, nevertheless. If bromide enlargements were hung in the shop windows of Deansgate of views taken up the alleys and courts leading from that thoroughfare, the bitter cry of the poor would not long go unheard. A dozen prints of the Ancoats that now is, will speak volumes ten or twenty years hence. No doubt there are many obstacles in the way of getting these negatives, some will need flash lights, but greater obstacles have already been overcome in these districts, and, given a few earnest volunteers, we shall be able to obtain outside assistance to complete the work.

8. *Limit of Area.*

Some are asking how many miles out of Manchester and Salford will the survey extend? The only limit in distance is Association. Where a member finds a historical building connected with the present or past history of Manchester and Salford, or the residence of a local worthy, a negative of it will be welcome.

System of Working.

In a voluntary work of this nature and magnitude each one must have free scope to go wherever and whenever he pleases. We shall be glad to receive anything a member chooses to send in. This may cause several negatives of the same subject to be taken in some instances, but it will be an advantage, for the committee will be able to make a selection of the best. Nor will it entail waste of labour, for all negatives will ultimately be returned to their owners.

But we need organization to gauge progress. We are, therefore, working in small detachments, or sub-committees, generally consisting of two, and to these a district, or a list of subjects is allotted, to be taken at their earliest convenience. We cannot tell how long the survey will last; that will depend upon the number of members who will help. The negative and a print will be required of those to whom subjects are allotted, to be sent to the Secretary, 335 Moss Lane East, or to him, care of Mr. Chapman, Albert Square, City, as soon as possible after taking, and the prints will be placed on the table regularly at the Society's meetings. It will be necessary to submit a print only in cases of work not allotted.

The size of negatives is left entirely optional. If a quarter-plate present a subject of special value, it may be enlarged. All will be acceptable.

As to the final printing nothing has been decided. It will be done in some permanent form, certainly. Nor can we say how many copies will be made ; the committee find this a more difficult matter than was anticipated. One firm of publishers has asked to reproduce the prints in book form, and it has been suggested that the members of the survey should have a copy each, either by exchanging prints or some other arrangement.

But we want *more workers.* If the photographing, organizing, and even finding of subjects are left to the committee, the survey may dangle on for many a season, and the pleasure in the work will soon be destroyed by the heaviness of the burden. If some are diffident as to their capabilities, let them make an effort : a failure would elicit advice which might serve them well. There are over 300 members in our Society ; if each one furnished half-a-dozen plates we should a total of 1,800 subjects. Surely we may hope for a most satisfactory result at the end of the year out of such a nucleus. It would not be stating too much to say that the whole survey might be completed in the months of April and May, if it were so determined. If those who do not need to be at business before eight or nine o'clock, would go to town two hours earlier, a week would suffice to do their portion. They would secure the best time in the day—before the smoke rises—and a walk over the ground during the days previous would greatly curtail the labour.

We have a work, too, for those who find it utterly impossible to do any photographing, namely, *view finding.* Will every member endeavour to furnish us with information ? This is our great difficulty. The letters that have been sent by volunteers are all most encouraging, but we have few suggestions of subjects. We shall, of course, aim at providing these from time to time, and as the survey progresses the members will be duly notified. Meantime, a careful consideration of the contents of this paper is urgently requested. It is not intended to be exhaustive in any way, but suggestive, and ideas will be gladly received at all times.

There are many who have not replied to the circular which was sent out on March 6th. *Will they kindly do so at once, either in the affirmative or negative*, so that the committee may know the strength of their body of workers.

A Photographic Survey of Manchester.

From the "Manchester Guardian," January 21st, 1890.

"THE Committee of the Manchester Amateur Photographic Society have planned and are now carrying out a scheme for a photographic survey of Manchester and its surroundings. It is an old maxim that "many hands make light work," and before many months are over there will be completed a photographic record of every notable building, place, and view in Manchester. Such a work will be absolutely invaluable to the historian and antiquarian of the future, and, it may be safely said could have been produced in no other way than by the joint labour of many individuals. The manner of carrying out this scheme is systematic and well arranged. The total district to be surveyed, including not only Manchester but a considerable extent of the surrounding suburbs, is marked out on a map, and divided into districts, which have been allotted to the various members of the Society volunteering to take up the work. Each member then, at his best convenience, takes out his camera and secures photographs of any historical or memorable buildings or scenes in the special district handed over to his care, and sends in his negatives to a selecting committee, by whom they are examined. If found to be satisfactory, the negatives are retained until prints have been taken from them ; if, on the contrary, the negatives should not be considered good enough for reproduction, their rejection is not felt to be a matter of great mortification—coming, as it does, from such an impersonal thing as a committee, with "no soul to save and no body to kick,"—and the photographic amateur tries his luck again with tolerable complacency. It was at first thought desirable that all negatives should be of uniform size, but for various reasons this had to be abandoned, and all sizes will be included, from the humble quarter-plate or still smaller "detective" to the imposing full-plate and "ten by eight." But supposing the negatives to be secured, the question of printing had next to be considered. This it was decided to place entirely in the hands of certain members of the Society who could not make it convenient to assist in the out-door work. Most people are aware that prints on the ordinary albumen paper can never be depended on for their permanency, however careful the manipulation. Light, air, and humidity will in the course of years make their destroying power apparent by the fading of the photograph. The most approved methods of securing permanency in the print, so far as our present knowledge goes, is to use either the bromide or the platinotype process, and the committee which had this matter under consideration came to the conclusion that either of these processes should be adopted in preparing prints which it is intended shall last practically for ever, or at all events as long as our civic archives shall have an existence. And additional advantages are gained by the adoption of these processes, inasmuch as there will be a uniformity of tone in the prints, all being alike black and white. The bromide process also lends itself easily to the enlarging of very small negatives to a size more in keeping with their companions. As to the number of prints to be produced and their disposal, the Society has so far only arranged to print two copies from each negative—one to be retained in the album of the Society and the other to be presented to the Free Library, King Street, Manchester. It is to be regretted that such a limit has been placed on the issue of the prints, seeing that they will be of such interest and historical value, and it is to be hoped that copies will also be given to other public institutions of the neighbourhood, as, for example, the Free Library at Peel Park, Salford. But the Society does not content itself with producing photographs. The members who have undertaken this work make themselves acquainted with the antiquarian and archæological history of their special districts, and along with their negatives furnish a short account of all that is interesting concerning the past and present of the subjects of their photographs. If this part of the work be carefully done it will add very materially to the value of the collection.

The photographic survey of their town is not an idea which originated with the Manchester amateurs; similar surveys are at the present time in progress in Birmingham, Sheffield, Liverpool, York, and other towns. The amateurs of Brooklyn are reported not only to be engaged in securing records of the buildings and scenery, or still life, of their neighbourhood, but are directing their attention to the portraiture of their leading men of the present time and the portrayal of characteristic scenes in the markets and places. The Manchester Amateur Society is very wisely proceeding on similar lines, and will include in its collection "snap-shots" at the crowded thoroughfares, busy markets, and railway stations of our city. To fully realize the value of this survey to historian and antiquarian of future years it is only necessary to consider how we should esteem any similar collection of views of our city, representing it with absolute fidelity as it was, say, at the commencement of the century, when Market Street was a narrow, cramped road, with thatched houses on either side, with its swinging oil lamps, and its leisurely population of full-skirted business folk carrying on their transactions in an indolent, dilatory fashion, under the shadow of the old pillory and market cross; when, instead of the present crowd of tramcars or host of screaming railway trains, an occasional mail-coach started, with much blowing of horns, to dawdle along the country roads for a day or two; when, instead of mighty goods trains disgorging their loads day and night into the town, the pack-horse brought a modest handful of wares over the hills. There are many living to-day who have witnessed these changes, and we must not forget that transformations as great are being gradually wrought in our own time just as much as in days gone by."

From the *Manchester City News*, February, 1890:—"The Manchester Amateur Photographic Society, as previously announced in our columns, are arranging to take a photographic survey of Manchester and its surroundings, which will comprise a photographic record of every notable building, place, and view in Manchester. The Museum and Libraries Committee of the Salford Corporation have passed a resolution requesting Councillor Mandley to confer with the directors of the Society, and endeavour to obtain for the Peel Park Museum a set of the photographic views intended to be taken.

From the *Manchester Examiner & Times*, February 14th, 1890:—"It is the intention of the Society to take a photographic survey of Manchester and Salford, and to present albums of the views taken to the municipalities of each place. In view of the continual street alterations that are taking place this photographic record promises to be very valuable."

Colour of Toning Baths.—It is well known that the tone of transparencies is affected by a prolonged or short exposure and development, but that the colour of prints is to some extent dependent upon the weakness or strength of the gold toning bath is not so widely recognised. A toning bath that works rapidly will give blue tones; one that works slowly, red or brown tones. This comes from the fact that fine metallic gold precipitated rapidly is a decided blue colour, while gold that is precipitated slowly is red. It therefore follows that to give a purple tint to albumen prints, the original washed prints should be a little reddish, and a gold toning bath should be used that works rapidly. If, on the other hand, reddish or brown tones are desired—as for landscapes—then a slow-working gold bath should be used. We may add to the foregoing, as all experienced photographers know well, that to simply use a strong solution of gold will not in itself ensure the production of the purple tones which are so often admired; the gold being but one of the component points to be taken into consideration. The substance used as an inductor to the gold, the depth of printing, the make of sensitized paper used, the fixing bath and even the quality of the negative are all constituents affecting the end sought.

The Annual Exhibition.

THE Annual Show of the M. A. P. Society was held at the Athenæum on February 13th, 14th and 15th, and proved as successful as any of its predecessors in every respect. The bulk of the labour involved in hanging and arranging the photographs was undertaken by the Council, but the members, in general, gave them a hearty support by sending in an abundance of material to work upon. About 600 pictures were exhibited, including silver prints, platinotypes, bromides, autotypes, aristotypes, transparencies, and almost every other style of reproduction was represented. In addition to these over 600 lantern views were thrown on the screen during the three evenings of the exhibition. The production of over 1,200 pictures as the work of one year, by the members of one Society, at its annual exhibition is, to say the least about it, creditable to those who have the honour of belonging to it, and gives us some idea of its capabilities.

The photographs were not perfection, either pictorially or technically, and anyone with a weakness for carping could have found a chance of displaying his abilities, but when we take into consideration that there were no prizes offered, and that it was simply a friendly exhibition amongst the members of one Society, we think it will be conceded that there was little to find fault with, and much that was worthy of praise. Compared with the exhibition of previous years, there was a marked advance, not in size but quality. Many of the enlargements were decidedly weak, displaying the "'prentice hand," and we may reasonably expect considerable improvement in this branch in the future, inasmuch as many of those shown were first attempts. The department in which there was a distinct progress, was in the better selection of subjects from a pictorial point of view. It was quite evident that the complex qualities which go to making up the picturesque are being cultivated, and that the art side of photography is receiving the attention which it deserves. To give a detailed list of all the exhibitors and particulars of their exhibits, would occupy more space than we have room for, and the task would have been more than we could have accomplished in the short time at our disposal. The following notes must be considered more as a remembrancer of the pictures than an attempt to criticise, indeed, we have sought for the good points in preference to the bad. It is quite possible that some of the best work may have passed unnoticed altogether, and in consequence, must not be condemned.

Mr. A. HAMILTON.—About twenty unframed 12 x 8 platinotypes, by the hot and cold processes. They consisted chiefly of views in Norway and Scotland. Charming pictures, with good definition, which has been obtained without sacrificing the atmosphere in them Well finished in every respect.

Mr. W. W. SHORROCKS.—An enlargement. " A Coast View at Onchan, Isle of Man," from an instantaneous photograph. Taken from a good point of view, and a very creditable production.

Mr. C. H. WOLFF.—A series of landscapes on Pizzighelli platinotype paper. Clean work, and evidently from first rate negatives. The uniform softness of the prints gave them a peculiarly unique appearance.

Mr. JOHN T. HUGHES.—Two enlargements by the Autotype Company, entitled "Old Cottages at Altrincham." The subject could hardly be termed picturesque enough to have gone to so much trouble with it, but there was no room to complain of the technique, so far as the negatives are concerned. A series of half-plates—many of them very good, especially one of Kirkstall Abbey.

Mr. JOHN T LEES.—A set of half-plate views including "Cartmel Priory Church," "At Ambleside." " Fireplace at Tabley," and "Chatsworth." The two last named displayed really careful work.

Mr. J. W. YOUNG.—About a dozen bromide enlargements embracing portraits, but chiefly architectural subjects Several of the latter would have made capital pictures but the development has been faulty ; there is a great want of contrast. The use of a strong iron developer would have made a wonderful difference.

Mr. W. L. HOWIE, F.C.S.—A frame of quarter-plate silver prints ; interiors in the palace at Fontainebleau and scenes in Norway. Lovely prints, exhibiting first-class technical ability, and deserving of the utmost praise. They may be ranked as examples of what good work should be.

Five enlargements from some of the foregoing were also commendable ; the one entitled "To the Hills" particularly so. The kilted Scotchmen on the march, were cleverly posed.

Mr. P. BERSI.—Four framed enlargements. " Llandudno Lighthouse" is the best. It is very effective in color and outline, but lacks atmosphere.

Mr. F. S. BEDFORD.—A set of views printed on Fitche's xylonite ivory films. These were novel. There was a yellow tint over them which degraded the high lights, but possibly this may not have been the fault of the operator.

Mr. J. DAVENPORT.—A variety of work embracing 15 x 12 enlargements, whole-plate and quarter-plate platinotypes, silver and Obernetter prints. These included views in Manxland, Cheshire,

&c. The dead surface of the platinotype suited the snow and mist in the picture of the Old Mill at Ashley, producing a realistic impression of frost, which would have been impossible with a glazed surface. There was also an absence of the extreme contrast which so often characterize photographic snow scenes The same subject from a different position, and at a different time of the year, with a rugged foreground of roots and broken earth, was shown on Obernetter paper. It was about the best picture of the old mill that we have yet seen. The Manx views were sharp and entirely free from halation.

Mr. J. H. HOLLAND.—An enlargement of the Old Locks at Barton. A clean piece of work: the contrasts nicely brought out, and the distance kept soft.

Mr. J. W. HADFIELD.—About two dozen quarter-plate land and seascapes. "The Footbridge at Peover" makes a nice picture, and all exhibited careful manipulation in development and printing. Nine half-plate Obernetter prints were also shown. The one entitled "At Cartmel" was best.

Mr. J. JONES.—A number of framed enlargements. Very creditable, but slightly wanting in gradation.

Mr. G. H. RIGBY.—Six 23 x 16 bromide enlargements, all framed. The bridge at Bettws-y-Coed has a vigorous rocky foreground, well brought out, and makes a pleasing view, and the coast scene at Ilfracombe is an effective rendering of a subject which rarely composes as a picture.

Mr. S. F. FLOWER.—A frame of six whole-plate views of Old Halls built in the "magpie" style of architecture. Evidently printed from good strong negatives, and interesting as a characteristic set.

Mr. A. C. HARRISON.—Five quarter-plate bromides, all carefully worked out. The old country waggon with the four horses in the water, and just about to cross the ferry, was one of the best pictures in the exhibition. It would make a splendid enlargement.

Mr. W. LITTLEWOOD.—About twenty half-plate prints of local scenes Neat views, which give promise of better work in the future.

Rev. H. J. PALMER, M.A.—Several bromide enlargements of scenery in the South of France. Mont Mandit in the Pyrenees, makes an unusually fine picture, with sparkling water and rugged rocks in the foreground, and snow-clad mountains in the distance. A portrait of the Right Hon. W. E. Gladstone, M.P., was much admired.

Mr. E. OPENSHAW.—Several framed enlargements by the Autotype Company. Capital pictures, doubtless from first-class negatives. "The Nunnery Grounds, Kirkoswald," and the brooklet in the same neighbourhood, indicate the hand of an old practitioner.

Mr. T. Morley Brook.—Half-plate prints, including Manx views, and a well-posed portrait entitled "A Fair Student." Good "all-round" work.

Mr. J. Irvine.—A frame of four half-plate landscapes. Very creditable productions; "An Antrim Village" being a really pretty picture.

A frame of six quarter-plate snap shots, embracing street and harbour views; very successful, and exhibiting careful technique.

Mr. T. Steventon.—Two frames containing Woodland Scenery, &c. The introduction of part of the Terrace in the Haddon Hall view improves the perspective, and relieves the building. The oak mounts imparted a heaviness to the deeply toned prints, and we thought, somewhat injured the general effect.

Mr. J. H. Seed.—"The Court Yard, Bramhall," an enlargement by the Autotype Company, reveals splendid detail. "The Collie Dog and Boy" makes a satisfactory enlargement.

Mr. J. Duffie.—Several 10 x 8 prints, framed. "The Old Boathouse at Worsley," and "Windybottom Bridge, Marple," are both pleasing pictures, although old and familiar subjects.

Mr. J. Drinkwater.—"Holford Hall" and the "River Kent," two enlargements. Suffer slightly from halation.

Mr. J. W. Wade.—Nine transparencies in two frames. The exhibitor took the Derby Prize with these. They are real pictures, sharp to a nicety, and of a lovely tone. Like all Mr. Wade's productions, they have a beautiful finish.

A dozen quarter-plate aristotypes, views in Holland and Wales. Little gems in every sense of the word.

Mr. G. E. Mellor.—"A Quiet Stream," in platinotype. The tone is pleasing, and the technical work is satisfactory, but the view is not defined enough. If a suitable figure could have been introduced, leaning upon the fence in the foreground, it would have made a charming picture. "Beeches" is a good forest scene. The old woman with the bundle of sticks on her back, improves the composition greatly.

Mr. T. Glazebrook.—About twenty 12 x 10 Obernetter and bromide prints, embracing local and Welsh views Some very pretty scenes among them, "A Breezy Day," which we should judge is taken from Bolton Woods, being particularly effective.

Mr. H. Smith.—Some pleasing half-plate transparencies, which displayed considerable taste and care. "Whitby" is produced in carbon, and two others are transferrotypes. "Clayton Hall" has been improved by the introduction of a figure in a free recumbent posture, to break the monotonous expanse of lawn in the foreground. Other prints are on Alpha paper, toned a blue-black shade, and somewhat novel in appearance.

Mr. W. TOMLINSON.—A numerous exhibit, including many large frames of merit, and about thirty half-plate views on india-tint mounts, mostly Scotch scenery amongst the lochs. Very picturesque, with some delightful skies, and displaying most careful attention to the details of printing, mounting, &c. There was a beautifully soft interior, and "The Silver Strand" with a foreground of bracken, and Garloch with its boats, were a pleasure to look at.

Mr. CHARLES DAWSON.—Several enlargements. Edisforth Bridge makes a good picture.

Mr. JAMES SHAW.—Three framed enlargements. "Tintern Abbey" and "Raglan Castle" are commendable for their vigour and tone, but are wanting in atmosphere.

Mr. R. BARTLEMAN.—Twenty-five half-plate aristotypes and bromides; mostly views in Scotland. The bromides are decidedly the best.

Mr. J. KIDSON TAYLOR.—Several very tasty bromides; good in colour, and taken from well selected positions. "On the Dee," and "Honiston Crag," make effective pictures.

The *Manchester Guardian* gave its readers a very good notice of the Exhibition, and, as the article bears evidence of having been written by some one who has a practical acquaintance with photography, and touches upon taste and other points that ought to interest all our members, we reprint a portion of it. After noticing the "great spirit and enterprise" of our society, the writer says:—"It is to exhibitions like this, of the every-day work of amateurs, that we must go to see what is really being done. Photography is almost strictly an amateur's art; amateurs have been, and are still, the pioneers, and nearly every one of the many discoveries made in photography's short fifty years' history has been made by an unprofessional worker. It is not difficult to see why this is and must be the case. We may conclude, then, that nothing very striking has occurred in photography since the last exhibition of the Society, as there is little in the way of novelty on the Athenæum walls. There is less than formerly of the highly-polished surfaces, enchanting as these things are to the producers of them; taste is certainly tending towards the dull (or, as photographers call it, "matt,") surface of an ordinary drawing. This exhibition shows admirably the progress made in that direction, and there are not a few examples on the wall which the uninitiated would scarcely take to be photographs at all, but rather to be finely executed lithographs, or even sepia drawings. Foremost among these are the pictures produced by both hot and cold platinotype processes, but there are also many admirable bromide prints which run the other process very close; indeed, so great is the difficulty in distinguishing some of them that it would be in every way an improvement if at exhibitions like this, which are educational as well as popular, the exact method of production were named on each example. The Society possesses, for the use of its members, a large-size enlarging lantern, and the exhibits show that it has been made good use of, there being many lantern enlargements, some of them of admirable quality. There are also several autotype enlargements. The exhibition does the Society great credit, and will be interesting whether to the casual visitor or to the photographer in search of information."

The Lantern Slides.

AN exhibition of these was given on each of the three evenings, when a magnificent triple lantern (kindly lent by Mr. J. G. Jones), was manipulated by Messrs. Bathe, Davenport, and Seed. The large hall was well filled on each occasion, and the audience testified their gratification by frequent applause.

The first night was occupied by the Rev. H. J. Palmer, M.A., who gave a most interesting lecture on

"Alpine Peaks and Passes, with remarks on the Phenomena of Glaciers."

It was illustrated with nearly two hundred views, many of them exceedingly good, and all of them greatly appreciated by the company assembled. Most of the slides were made from negatives taken by Mr. Palmer during twenty-two holiday rambles with his camera among the Alps, and a few were the work of the late Professor Donkin, taken from the summits of the high Alps, and were almost amazing pictures, of great beauty.

The lecturer commenced with views taken on the route to Switzerland, and the exterior and interior of Antwerp Cathedral were shown, the latter being a bright and pleasing picture of a difficult subject. The Town Hall at Brussels followed, revealing a splendid pile of buildings. Treves and Basle were next dealt with, embracing Roman ruins, the river Rhine, with its rapids and falls, and panoramic views. At the quaint old city of Berne, the west portal and an interior of the Cathedral were thrown on the screen. The former is a richly-carved doorway, and the slide displayed it to perfection. The Orgre fountain at Berne was a beautiful continental scene, reminding one of Prout's picturesque "bits." After taking a peep at Freibourg and Lausanne, the Castle of Chillon, upon which Byron founded his well-known poem, was shown.

The audience was then taken in imagination along the passes of the Great St. Bernard, the Gemini, the Tête Noir to Chamounix, Monte Moro to the Val d'Ausasea, and the Italian Lakes, returning home by the St. Gotthard, the Rigi and Lucerne. Many of them were marvellous scenes, embracing snow-clad summits, icefields, glaciers, and stupendous rocks and precipices, which words cannot describe or do justice to.

Mr. Palmer's remarks upon the phenomena of glaciers were most lucid and instructive. He dealt with the theories of Professors Tyndal and Forbes on glacial motion, and illustrated, by the help of numerous pictures, the formation of sèracs, crevasses, moraines, cornices, and glacier-tables. He was listened to with the greatest interest and pleasure.

On Friday evening, Messrs. Davenport and Wade described, and exhibited upon the screen, about 220 splendid pictures illustrative of

"Picturesque Nooks and Corners of Old England."

The superior character of these gentlemen's work, both of them being prize winners in this department, is well known, and their efforts met with a cordial reception. Mr. Davenport commenced first by showing some charming rural scenery in Cheshire, and followed these with a series of views in the Isle of Man, some of which were taken in almost inaccessible spots, rarely visited by the ordinary tourist.

Mr. J. W. Wade then exhibited a large number of slides, commencing with views round about Manchester, some of which were shown in their summer aspect, and others of the same subjects taken during the winter's snow. An express train took the audience in imagination through Derbyshire, visiting Cheedale, Haddon, Chatsworth, &c. A series of views taken in the gardens of Alton Towers was next shown, and a trip was taken down the borderland of Wales. Mr. Wade's detective pictures of trippers at Blackpool, and comic incidents of animal life, were very amusing.

A selection of statuary at Peel Park Museum was shown, and these were followed by scenes in North and Mid Wales, English Lake District, Scotland, Isle of Man, and Holland.

Mr. Wade concluded with scenes from the pantomimes at the four Manchester theatres. He remarked that they were most difficult subjects for the camera, and many of them had been taken during the performance.

On Saturday, the evening was mostly taken up by an exhibition of slides made by the members in general, which consisted of

Local and other Views,

culled from all parts of the United Kingdom, and were of a very high class, displaying a marked improvement over those shown last year, both in technical skill and artistic taste. The following gentlemen contributed the slides :—Messrs. C. H. Wolff, Littlewood, Glazebrook, F. W. Parrott, J. Greenwood, J. Drinkwater, F. W. Burton, E. F. Prince, E. A. Mansfield, J. H. Seed, G. H. Rigby, W. E. Hutchinson, W. Tomlinson, D. H. Blair, J. F. Moseley, and F. Smedley.

These were followed by a splendid series of photographs of the Manchester Royal Jubilee Exhibition, the work of Mr. W. I. Chadwick, an honorary member.

At the close, Mr. R. B. Wilson, in a few very suitable words, proposed a vote of thanks to the Council and those who had so ably assisted in making the exhibition such a thorough success.

Correspondence.

THE RAMBLE SEASON.

To the Editor of the *Photographic Record.*

Dear Sir,—With the suggestion made in the last number of the *Record* that we should enter into a friendly photo. contest with some other society I most heartily agree ; though I should shrink from being chosen as one to represent our society. Although there may be no prize whatever, or something of merely nominal value, as named by your correspondent "X. Y. Z.," we should all take an interest in the matter, and I hope the Council may be able to take the question up. If we were awarded winners of the second place, there need be no blood spilt over it, and we could try again next year.—Yours, &c.,

CHAS. DAWSON.

Our Wide Angle Lens.

Luminous Transparencies.—A novel and pleasing effect may be produced by backing transparencies with the phosphorescent composition known as Balmain's luminous paint. This may be painted on a piece of cardboard, the size of the picture, and the two bound together at the edges after the manner of a lantern slide, but the photographic film should be placed outside, as the paint has a tendency to cause decomposition of the image. The reversal of positions in the picture cannot very well be avoided if it is intended to last any length of time. The paint may be applied direct to the bare glass, but in any case the film should be varnished. The phosphorescence can be revived at any time by exposure to daylight or by burning magnesium wire.

How to Reduce Silver Prints that are too deep.—The variable factors on which all photographers have to depend, and the too often "makeshift" conditions under which the amateur, in particular, follows his pursuit, of necessity produces a crop of over-printed and over-toned pictures. These imperfect nightmares are often consigned to oblivion, or are shown with apologies. Various methods of rectification have been suggested, but their weakness is that they usually add to the misery by introducing "mealiness" and other defects to those already existing. A correspondent of *The Photographic Review* gives a very simple remedy, which the Editor says he has tested and has "proved excellent." It is simply a repetition of the fixing and salting both in general use. He says:—"The usual operations of toning, fixing, and washing having already been performed, the dark prints are selected from those which can pass as good, and dried. They are then, in their dry state placed in a fresh solution of hypo the ordinary strength, but containing a small quantity of spirit. When reduced a bit, they are immediately transferred to a saturated solution of sodium chloride (common salt), for, say, a quarter of an hour. On lifting them out of this bath, they are given a dip in the hypo again, and afterwards washed and mounted. If the operations have been judged properly, one cannot tell the prints which have been reduced from those finished outright. The salt bath, irrespective of its reducing powers in conjunction with hypo and its well-known anti-blistering properties, has also the effect of giving a warmer tone to the prints than they would otherwise have if reduced by hypo alone." The Editor suggests that if the one treatment is insufficient, the operation may be repeated, and, in the case of prints very much over dark, a few drops of Cyanide of Potassium added to the salt bath will increase the reduction. Ten drops of a saturated solution of Cyanide will be sufficient in extreme cases.

Question Box.

Photographing in Peel Park, &c.—Would it be possible for the Society to gain for its members the privilege of photographing in our local museums—Peel Park, &c.?

Ans.—This has already been obtained for Peel Park and our members only require to show their card of membership if it is asked for. Permission for Peel Park museum may be obtained from Mr. Plant, the curator, who is an old photographer himself. It is important to give as little trouble as possible.

Bromide printing instructions.—Is there a simple instruction book how to print on bromide paper by gaslight, so that a person who is entirely new at it may be able to complete a satisfactory picture from a good negative?

Ans.—We are not aware of any book specially written on the subject, but odd papers may be found in many of the journals and year books They are all fairly comprehendable, if not *simple.* Any of our members who print bromide will gladly give information on the subject.

Title on Negative.—What is the material to be used for writing upon negatives so that it shows on prints after completion?

Ans.—Four different methods were given in No. 8. at page 197.

Alexandra Park.—Is it necessary to obtain permission to photograph in Alexandra Park, and, if so, where can it be obtained?

Ans.—Apply to the Parks Committee, Town Hall, Albert Square.

Optimus and Lancaster's Lenses.—Can you give me your opinion through next No. of *Photographic Record* of the Optimus R. R. Lens, 7 by 5, for half-plate work; also of Lancaster's Instanto Lens, half-plate.

Ans.—We know a gentleman who has an "Optimus," and he considers it "worth its weight in gold." We could not say much more in its favour. It must be remembered that photographic lenses are not cast to one shape like the lenses in a "bull's eye" lantern, but ground down, each one separately, and in consequence are liable to variation more or less. Read up Dallmeyer, on "The choice of a Lens," in the library, then buy your lens "on approval," and if it is weak, reject it for another.

Lancaster's "Instanto" is one of the best view lenses in the market, but like all others, there is a percentage that are not perfection.

Sale and Exchange.

[*Our Sale and Exchange columns are open to subscribers free; to non-subscribers a charge of 4d. will be made up to 12 words, and ½d. per word extra.*]

ON SALE.—Shew's Camera: quarter-plate, for hand exposure, three double backs, lens, &c. Offers wanted. Can be seen in Manchester. Address—Camera, care of Editor, 46 King Street West, Manchester

ON SALE OR EXCHANGE.—Lenses: Lancaster's half-plate, instantaneous lens, and shutter, almost new. Will sell cheap or exchange for a good quarter-plate or 5 by 4, rapid rect. "Optimus" preferred. Offers requested.—Amateur, 11 Kempster Street, Broughton, Manchester.

ON SALE.—My Studio, measuring 14ft. by 7ft.; 70 sq. ft. of glass; two back grounds (indoor and outdoor); rustic flower stand and pedestal. Will take 45s. if moved away at an early date.—H. Taylor, 34 Wellington Street, Moss Side, Manchester.

WANTED.—A Photographic Companion for a ten days' walking tour, North of Ireland, knows district, cheap, age 22, second season, July or August.—Address, C.L.S., care of Editor, 46 King Street West, Manchester.

WANTED —A wide angle, say 6in. focus Rect. lens for half-plate; Wray's or "Optimus" preferred.—Address, W.R., care of Editor, 46 King Street West, Manchester.

FOR SALE —Dallmeyer, 4½in focus, single stereo lens, good as new.—Seed, 26 Hopwood Avenue, Manchester.

ON SALE.—Special Bilcliffe Camera, best make, can be used as either quarter or half plate, 11 double backs, 4-fold stand; 3 Taylor's lenses, Iris diaphragms, bayonet flanges, R.R. and W.A.R. for 8 by 5, landscape for 5 by 4; Furnell's shutter, finder, level, &c.; 3 cases for same; cost £25. 7 vols. *Amateur Photographer* with binding cases to date; 100 *British Journals*; 50 *Photographic News*; dark room lamps, and all accessories for enlarging &c. Offers wanted.—A. L. Bostock, Eagle Mills, Whitworth Street, Manchester.

ON SALE OR EXCHANGE —Tricycle, Humber bicycle steering, sound condition, camera carrier, &c., all accessories; particulars on application; will sell cheap for cash, or exchange to value of £6 10s. Any of following taken as part payment:—good quarter-plate, 5 by 4, or half-plate outfits; also magic and enlarging lanterns: or anything useful. Offers requested to Cyclist, care of Editor, 46 King Street West, Manchester.

WANTED.—Three or more quarter-plate double backs to fit Furnival's camera, must have double hinges to slides. Apply, T. M. B., The Lingards, Chatham Grove, Withington.

WANTED.—Capitalist to join advertiser (a gentlemen well-known in the photographic world) in working and placing on the market an invention, for which there is a great demand. Highest references, &c. Apply, Chloride, 46 King Street West, Manchester.

All *business* communications to be addressed to the Hon. Sec., Mr. R. O. GILMORE, Solicitor, 1B Cooper Street, Manchester.

Items for the Sale and Exchange Column, Correspondence, Question Box, &c., should be addressed to the Editor, Mr. GEO. WHEELER, 46 King Street West, Manchester.

THE

PHOTOGRAPHIC RECORD

THE ORGAN OF THE

MANCHESTER AMATEUR PHOTOGRAPHIC SOCIETY.

No. 12 JULY. 1890.

CONTENTS

	Page		Page
General Notes	... 273	Home-made Apparatus ...	... 286
Architectural Photography	... 275	Algiers and Constantine ...	... 288
Exposure in Miller's Dale ...	... 278	Correspondence	... 292
Photographic Survey of Manchester and Salford	... 279	Our Wide Angle Lens ...	... 293
A Scamper in Holland ...	.. 281	Question Box	... 294
Bromide Printing	... 284	Sale and Exchange ...	... 296

General Notes.

Another step has been taken in the right direction. For the use of the Members in general, the Society has, upon the recommendation of the Council, purchased an excellent 10 x 8 camera, lens, et cœtera. This should prove a valuable acquisition, and the money which it has cost, has been well and rightly invested. We are not a saving Society, and as the Members have contributed the money, it is but right that it should be spent for their benefit.

In these days of quarter and half-plate cameras, with the facility there is for enlarging, it is only occasionally that a large camera is required, and for these rare occasions the outlay demanded is too great for individual Members. This difficulty has now been overcome. Any Member who wishes to take a large group or obtain a large direct negative of any special view, now knows where he can procure a suitable instrument without being beholden to anyone, for it is the property of the Members as a Society.

The apparatus consists of a 10 x 8 camera, fitted with a 10 x 8 Dallmeyer's Rapid Rectilinear (rack and pinion) lens, tripod, Kershaw's shutter, three double dark slides with carriers, printing frames, &c.

It can be obtained on loan by applying to Mr. J. Davenport, John Dalton Street. A number of names and dates have already been given in.

The only medal offered as 1st prize for seascapes at the Crystal Palace Exhibition, was awarded to Mr. J. W. Wade of the M.A.P.S.

⁂

We have been repeatedly asked to furnish an index to our magazine. In our next number, the thirteenth, we shall endeavour to do so, and also supply a title page for binding purposes. The present issue marks the completion of the third year of publication.

⁂

In this number of the *Record* we have commenced a column for simple home-made appliances. and ask for help to make it thoroughly serviceable to our readers. One or two individuals cannot possess all the best ideas and wrinkles, and herein lies the value of association, that we mutually impart assistance to overcome difficulties.

⁂

At the June Meeting, Mr. Lees exhibited a hand camera of his own construction, which is about the most practical and simple apparatus we have seen. With it he can take twenty-one pictures in succession without changing, and gets good results without the aid of direct sunshine. We hope to give particulars in our next issue, in the column above referred to.

⁂

In the notice of our Exhibition, given in the last number of the *Record* an error was made. The two pictures entitled "Cartmel Priory Church," and "Chatsworth" were wrongly attached to Mr. John T. Lees' name; they were the work of Mr. J. W. Hadfield.

⁂

Dr. Emerson has presented our Society with a handsome folio copy of his work entitled—"Pictures of East Anglian Life," illustrated with numerous whole-page photogravure plates. Apart from the interest with which it will be examined, because of the author's well-known views on "naturalistic" art, the insight which it gives by pen and picture of the every day life of the peasantry and fisherfolk in our eastern counties is most valuable. Whether we agree with the doctor's art opinions or not, we are compelled to admire this monument of his literary abilities and his courage in the propagation of his convictions. Inside the cover he has inserted a special page "To the Student," in which he sets forth his photographic ideas. These are worthy of careful consideration. We hope every member will put in his claim for an examination of the volume, which will help us more clearly to understand the position which Dr. Emerson takes up, in place of the vague notions we have hitherto been able to form.

Architectural Photography.

By Mr. J. W. Wade.

Read before the Society, May 13th, 1890.

THE branches of photography are many and far-reaching. Landscape (which I have treated of in a former paper) is by far the most popular, the easiest, and the most effective. Portraiture I would advise no amateur to take up, without he intends to go in to it thoroughly, and has a properly constructed studio; that is, unless he wishes to make enemies of all his friends and relations who pose for him as models. The branch, architecture, which I intend briefly to touch upon to-night is one of the most difficult, but, like many difficult things, is at the same time very interesting, and the results when successful are "things of beauty."

It has been thought that the difficulties may possibly deter some of our younger members from joining the photographic survey which we have in hand as a Society, so, in this paper I shall endeavour to smooth some of the difficulties and answer the questions that have lately been raised anent the survey scheme.

Presupposing that we have decided upon the building to be photographed, one of the first points to be considered is, where shall we fix the camera—where is the point of sight? That decision depends upon several other issues. The principal ones being the lighting, and the composition of the subject. Suppose the building we had decided upon was the Manchester Infirmary; we should not place our camera directly opposite the centre dome, for then we should have a stiff unpleasing composition, with both sides exactly balanced, a picture that no one would admire. We should rather move towards the angle of the building, and here we often fall into another error which is not so generally known as the former, that is, we should never ("well! hardly ever," for there is no hard and fast rule in art) have the principal angle of a building coming in the centre of the picture. These are the two main points to be remembered in composition. There are a many minor ones which vary with the subject, and to know these the photographer should visit the place, and study his subject two or three times without his camera.

The architect (as I know from personal experience) often either consciously or unconsciously designs his building to look at its best from a certain standpoint, and it is that standpoint we must try and find out before exposing our plate. In an isolated building the most picturesque view is generally the one that shows the front with a partial view of the side.

We should not only study our subject *en masse*, but we should also take observation of the sky-line which, in Manchester, is generally picturesque, though often spoiled by the electric wires. The grouping of adjoining buildings should also come in for a share of attention, and with these we have a great power in our hands of making an effective and artistic picture. For instance, let us just imagine a view where the middle distance is occupied by a building full of fine gothic detail in bright sunlight, which alone lacks force, but, by moving the camera we could get some bold and heavy details of a near building into the field of view; get them in the picture by all means. They are in shadow and extremely ugly, but their very ugliness will, by contrast, improve the beautiful building we wish to portray.

And now as to lighting. The buildings of any large town, (I don't particularize Manchester) soon become dark and grimy, and require the aid of direct and brilliant sunshine to bring out their details; therefore do not photograph in town on a dull day. In architectural photography we should never have the sun either directly in front or behind the camera. With the former the result will be a black mass of building without detail, and with the latter we shall have a flat and insipid production wanting relief and brilliancy.

The light and shade of our pictures ought to be made up of two masses, the light predominating over the shade. We can often get a mass of shade by the shadow thrown by an adjoining building across a portion of the one we are photographing, but we should always be on the look out for a broad system of lighting.

Having settled upon our standpoint, and the time of day we have to take our picture, we will consider the apparatus. Almost any kind of a camera will do, but one having a swing back is preferable, which must be used only when really necessary, it being much better to use the rising front instead. The stand ought to be of a good height and steady.

The best lens for architectural work is the Doublet, be it called the Rectilinear, Symmetrical, or Portable. The focus should not be less than the length of the plate. A short focus lens is an abomination, and ought not to be used except in extreme cases. It is much better to leave out the top of a building than obtain effects with which the public are not familiar, and though mathematically correct, exaggerated in perspective.

A single lens may be used at a pinch if the subject allows, but the focus ought to be double the length of the plate, or we shall have the marginal lines curved.

I trust that these remarks will not deter any member from sending in his negatives, even if the marginal lines are barrel shaped; for if the negative is a good one, we will have it reproduced, and the curved lines made straight, which could be done by copying it with a single lens reversed. All the details should be as sharp as possible to the edge of the plate. There must be nothing of the impressionist school about our survey. Of course, if we wish to get moving figures in our pictures we cannot use a small stop, for with rapid exposures we must have a large aperture, and that means loss of definition.

There is one little piece of apparatus we should never be without when on architectural photography intent, that is the level, which may be carried loose or attached to the camera. I found when photographing in Holland, that it was very essential to use a level, for very few houses were perpendicular, and even in this city perpendicular lines cannot always be depended upon as a guide.

It has been asked, what class of negatives will be suitable for the survey? I think it very probable that the prints will be produced in platinotype, therefore what is termed a "plucky" negative will no doubt be the best; clear in the shadows and plenty of detail. For a negative of this class sulpho-pyrogallol and ammonia is in my opinion the best developer.

Of course, interiors will be included in the survey, so I will conclude with one or two remarks on that subject. The same two rules as to composition of an exterior also apply here, that is, the camera should not be placed in the centre of a building so as to have both sides alike; nor should the diagonal of a room be taken with one of the angles exactly in the centre. Halation, the bugbear of interior work, can be avoided to a great extent by using a thickly coated plate and giving full exposure; commence the development with very little pyro, and as soon as all the details are out add the normal quantity of pyro until sufficient density is gained.

Aristotype Matt Portraits.—In the whole range of photographic printing processes nothing equals the aristotype for rendering fine delicate detail; and for softness combined with nice gradation of tone, it is unapproachable. It may be produced with either an enamelled, or a matt surface. Some specimen portraits in matt finish, which have been printed in Germany, may be seen at Mr. Chapman's, Albert Square. They are really superb and will bear out all we have said concerning the capabilities of this paper.

Don't forget the Survey. A considerable number of plates and prints have been sent to Mr. Wilcock, but he still calls for more helpers. Some have not done anything yet. He wants them to "buckle on the armour" promptly.

Exposure in Miller's Dale.

ON the day of the ramble to Miller's Dale, Derbyshire, the President, who accompanied the party, was interrogated by those who had not any previous experience in the Dale, as to the proper exposure to be given. His reply was that he was giving twenty-five seconds with *f*32. This answer quite nonplussed those who had already been giving three, four, and five seconds under almost similar circumstances. In consequence, Mr. Davenport introduced the subject at the June Meeting, and explained why he gave this amount of time. He also exhibited some excellent prints, negatives, and lantern slides in illustration of his remarks. An interesting debate ensued, and some very diverse opinions as to the correct exposure were given by the Members present. While some contended that the subjects, comprising limestone rocks, a sparkling stream, with foliage, all fairly lighted on a bright day, only needed three or four seconds' exposure, others affirmed that over twenty seconds were required to obtain the fine detail in the shades to perfection.

Mr. Parrott said he had photographed repeatedly in the Dale, and had found that on a bright day such as the one in question, about four seconds' exposure with the stop he usually employed gave good results. He considered that the method of development had as much to do with the making of a good negative as the length of exposure had.

Mr. Sykes said he had not been in Miller's Dale previously, and being a 'prentice hand this difference between the doctors unsettled him somewhat, and he had given both long and short exposures. Upon development he found the former had produced the best negatives.

The President was requested to explain his *modus operandi* when developing plates which had received long exposures. He reminded the Meeting that his negatives were obtained specially for the purpose of making lantern slides from, and in consequence he wanted soft detail in the deepest shadows. The developer he used contained 1½ grains pyro, 3 grains bromide, and 1 minim ammonia, to the ounce of water. His plates were Wratten's instantaneous. Long exposures needed slow and careful development, for the image must be gradually built up, so as to avoid extreme density on the one hand and clear glass on the other. He always kept a record of the exposures and notes of the subjects, as the individual plates may require a slightly different treatment.

Mr. Drinkwater said he had taken particular notice of the President's exposures, and as he had only given one-fifth of the time, he was glad the subject had been brought forward, and passed to the chair prints from his negatives. He had considered that with a shorter exposure the distance would be better rendered, but on comparison with prints from Mr. Davenport's negatives of the same subject, this was found not to be so, the distance in the latter being very well defined.

Mr. Lees said that by using films he could get both density and detail with half a second's exposure. He exhibited some street scenes taken in the sixtieth of a second, which were very satisfactory.

Mr. Wheeler considered that prolonged exposures for ordinary work produced flat lifeless pictures. The exposure he had given averaged three seconds, *f32*, with Ilford ordinary plates, and the bromide prints on the table from his negatives contained quite sufficient detail, if anything too much. His previous experience taught him that the light in Miller's Dale, reflected by the limestone rocks and the river, was very luminous. The long exposures, well controlled in the development were correct when the purposes they were intended for were understood, but for ordinary work shorter exposures gave more brilliant pictures, and there was less liability of movement in the foliage The teaching of the discussion was that there was great latitude in exposure, and that if performed in conjunction with the development, a bad negative would be an exception.

The Photographic Survey of Manchester & Salford.

It is difficult to report progress in the midst of a big task. I can only say that we are going along satisfactorily. Our work increases in interest and greater interest is taken in it by those outside. The slips which were sent out at the onset for those members to sign who were willing to assist are still dropping in singly. Now I would like to remind those of the fact who have *not* returned theirs, also that every member of the Society is somewhat responsible for a *portion* of the work, and that, as long as they withhold their aid, that portion *is left undone, or falls on shoulders already fully burdened*. We have allotted work to some who have not done it, while others who asked to be allowed to work at their own will have sent splendid results—one of the latter has sent in seventy-five negatives already.

There are among the old amateur photographers of Manchester a large number of negatives of buildings and streets now demolished, these are invaluable, and I am happy to say we have received promises of the loan of many, and the Secretary of our parent society—the Manchester Photographic Society—has just informed me that their members are disposed to lend such as they have, and that their committee are asking for a list of plates, &c., on their next monthly circular.

We have been fortunate in the readiness of those in charge of public and private buildings and places to grant us permits for photographing, and if members will kindly communicate with me, naming any special building—interior or exterior—they will undertake, I have no doubt that we shall obtain the necessary permit. It will be seen that members can secure negatives by this means, they would not be able to do otherwise. We have also made arrangements with the Parks, &c., Committee to photograph in the various enclosures at present forbidden, and members desiring permits will kindly write to me.

There is much work going on quietly for the Survey. Several of our members have informed us that they have negatives ready, but ask to retain them for a time, to get more prints for themselves. We therefore wish to note that we do not ask for negatives to be sent in at once, if members feel inclined to keep them back until the time for general printing; but we do ask for a print to be sent in as soon as possible, bearing member's name, date, place, and anything of historical interest written on the back.

The Antiquarian Society are visiting many places suitable for the Survey, and the Secretary has kindly written to sayour members working for the Survey will be welcome at any of their rambles. We hope as many as can will avail themselves of the opportunity; their rambles are always advertized, or I can furnish particulars.

We are still in want of help; many able members have as yet done nothing. If everyone would send word whether or no they will help us, we should be obliged for the little consideration; it is not much if each will do something, and it is hardly generous to leave it to others to give time and cost of plates, when the quota required of us is so small. We trust this appeal will have the desired effect.

JNO. WILCOCK.

Your wife can tidy-up your dark-room in five minutes, but it will take five years to find out where she has put the things

A member wants to know how long groups should be exposed. "Why, the same as short groups, of course."

A Scamper in Holland.

By Mr. J. W. Wade.

Illustrated by lantern pictures before the Society, January 14, 1890.

HAVING spent the first portion of my holidays in North Wales, I had only the fag end to dispose of, so as an experiment photographically, I decided on a run over to Holland, and it is the result of this experiment that I wish to bring before you to-night, trusting that it may be of use to some of the members. For an inexpensive holiday ground I can recommend it as being cheaper than Scotland, or the English Lakes, and no country within easy reach of England is so foreign in its appearance, in its customs, and in its manners.

A wet and dreary day was that on which I left Manchester for the journey eastwards. A stranger visiting our city on that day would scarce believe that a snap shot could be taken so rapidly as this, (view shown) among the smoke and fog which is said to be so endeared to our streets. However, as I stepped on board the "Retford" at Grimsby docks the weather had improved as far as a Scotch mist, and when that had cleared away, I had fine weather during the whole trip.

I was rather dubious about the comfort of the M. S. & L. boats, expecting that the company would pay more attention to their cargo than their passengers, but I found it was not so. The cabins and berths were models of cleanliness, the saloon spacious, the officers pleasant and attentive, and we were not overcrowded. Unfortunately Britannia had not ruled the waves for us, or at least had not ruled them straight, so perhaps it would be better if I omit a description of the voyage. About one o'clock next day we entered the river Maas, and then had a run of thirty miles to Rotterdam. There was a great variety of shipping in the river, from the great ocean going steamers to the clumsy broad prowed Dutch schutes, indeed I was much surprised at the busy aspect of the river, especially nearer the town

Eighteen hours after leaving Grimsby we were moored to the quay at Rotterdam, and promptly boarded by the custom officers.

One of these pronounced my camera to be new, therefore liable to duty. In vain I pointed out the scratches upon its polished sides; fortunately he did not ask me the value of my lenses—I had three or four Ross's—but only the value of the camera, so I got off by paying a small sum under protest. I must say that this was the only piece of imposition practised upon me, for I found the people, generally, both honest and obliging.

Four other tourists and myself having fraternized during the voyage, we decided to keep together, and at once made tracks for the Hotel de pas Bas. The remainder of the day we spent in wandering about the quaint streets of the town. studying the manners and customs of the people, and looking out for bits for the camera on the morrow.

What little I saw of Dutchland seemed to me to be well suited to the camera Mountainous scenery of course there is none, but plenty of picturesque bits of river and canal, enriched by many a quaint and ancient building, which subjects are I think more satisfactory to the photographer than the mountains and waterfalls of Switzerland and Norway, which are often dwarfed out of all proportion on a quarter-plate. Next morning, before my friends were awake, I was busy with my camera; the first picture being a kind of Barton Arcade called the Passage. After making two exposures on this, I then strolled along the canals, setting up wherever a composition pleased me. although this procedure soon exhausted my available stock of plates. A detective camera would have been more useful, for the bits of quaint Dutch life formed many a picture I longed to take. but as soon as the three legs were put up, the folks were as stiff as so many posts.

During the course of my ramble I found myself in the Park, which is situated on the banks of the river. There are a many choice bits of woodland scenery to be picked up under the shady trees or on the banks of the lakes. Of course, Holland is nothing without water, "water, water, everywhere," indeed it is almost impossible to get a picture without water showing in some part of it. This I do not object to, for invariably a picture is improved by having the liquid element introduced. I may just mention that there seems to be no restriction about photographing in the parks or in the streets. The camera is free everywhere—except through the customs.

An excursion to Dordrecht or Dort is extremely interesting. As we emerge from the railway station we have before us a bright and pretty scene. The painted villas, the gardens filled with brilliantly hued flowers and vivid greenery, only separated from the road by a narrow canal, and the picturesque costumes of the people reminding one very forcibly of those brilliant rural scenes which we often see on the comic opera stage.

When we enter the town the scene is entirely changed, but not less interesting. Dort is the only town left out of seventy that were submerged during an inundation a century or two ago, and even now there is far more water than land about. Our Secretary in his very amusing account of the ramble to Bolton Abbey, mentions the fact that Bolton Abbey was built in a certain century, and has remained in the same spot ever since. Well this town of Dort was built in the middle ages but has not remained in the same spot ever since, for it amused itself one day by having a slide of some yards from its original position. To ramble about its queer streets, and loiter on the bridges over the canals, takes one in imagination far into the past. for very little about the place is modern. In such a place one could imagine himself his own great grandfather.

The cathedral at Dort, similar to most church architecture in Holland. is not a very handsome structure, portions of it having been rebuilt at various times, without any regard to the former or adjoining buildings

Here is a more distant view of the cathedral with a Norwegian barque in the dock.

These pictures lose much of their original beauty with not being able to reproduce the brilliant colours. All the boats are as "spic and span" as a new pin, their timbers scraped and varnished, every bit of brass work polished. and I should think the paint is renewed once a week. Then we often have a background of red tiled houses with window frames of perhaps a bright green color, which reflected in the inevitable water, often make most charming pictures.

At Dort I came across a fine specimen of Dutch beauty decked out with gold helmet, spiral horns projecting from the temples, heavy gold earrings, brocaded bodice, &c., I asked her in my best Dutch to allow me to photograph her, but she gave me such a scornful "Neen" that I felt completely sat on and never had the courage to ask another. If I had had a detective camera I should have taken it without permission.

It was kermis time (that is fair time) at Rotterdam, so we spent the evening seeing "all the fun of the fair" and were highly amused to see how the Dutch people enjoyed themselves. The places of amusement were open until one o'clock in the morning.

Half an hour's run brings us to the quiet old city of Delft. In the centre of the city is a large square at one side of which stands the Cathedral, and on the opposite side the Stadhuis or Town Hall. Photographing the latter, I was much troubled by a score of children posing themselves in the foreground, but I got over the difficulty by arranging them behind the camera, and exposed my plate before any of them had time to run to the front, but being hurried over it, the photograph did not turn out a good one.

This is one of the ancient gates of the city, the Oospoort. The picture was taken when quite a gale was blowing, and would have been improved by having the water broken up by boats, but although there were plenty about, none were in the right position.

The guides about these places are a nuisance. They seemed quite astonished that I did not care to see where the Prince of Orange was assassinated, or Van Tromp's tomb, which is in the cathedral in the centre of this picture, or the wonderful pictures in the Stadhuis, but I never did care for sight seeing in the way some people go about it; I would much rather loiter along the streets and lanes, picking up scraps of picturesque knowledge unawares.

I intended to devote the last afternoon of my visit to an architectural study of Dutch doorways, &c, the details of which, in many cases, are extremely beautiful, but happening to stroll into the Zoological Gardens, I spent a pleasant afternoon in zoological study, including the genus homo, for the place was crowded with brightly dressed people listening to a capital band. My sketch book is unfortunately innocent of any notes of Dutch architecture, although by means of the camera I have been enabled to bring home more truthful representations of places visited, than I could have done with the pencil.

We had such a glorious return voyage that I was quite sorry when England was once more in sight, but I consoled myself with a promise that all being well I should pay another and less hurried visit to the Netherlands.

Bromide Printing.

(Continued from page 239.)

WHEN ferrous oxalate is used as the developer it must of necessity be followed by a clearing or acid solution, otherwise the whites of the picture will be stained or degraded. If the development is followed by an application of water, the particles of iron with which the film on the paper has become saturated, are precipitated, and the high lights and general appearance very much discounted. Either citric or acetic acid may be used as the clearing solution. The latter is more inclined to blister some makes of paper, but as it has no ill effects on the Ilford and Eastman makes we now use, we prefer it, because it may be purchased in solution of a definite strength, and the diluted stock bottle is so promptly replenished by it. We label the bottle with the amount of water which it will hold when filled, and the quantity of acid required. When the bottle is empty, we simply measure out the acid and pour it in, and then fill up under the tap; it is done in a few seconds.

The proportions of the clearing solution are as follows:—

Acetic acid ... 30 minims. Water ... 16 ounces.

If citric acid is preferred, mix

Citric acid ... 1 dram Water ... 16 ounces.

Some workers add alum to the above, for the purpose of hardening the surface. Half an ounce is sufficient to the above quantities. Three doses of the acid should be applied.

The print may now be transferred to a dish of clean water and examined by gaslight. It is better to print off all the copies required, and allow them to stand in water before touching the hypo in any way; this will save stains.

The correct strength of the fixing bath is a disputed point, but this we do know, that a strong bath of hypo will reduce and change the colour more or less. The strongest ought not to exceed one of hypo to four of water. Some recommend one in eight, but the happy medium of one in six will be found satisfactory. Fifteen minutes in a strong bath and twenty in a weak one will efficiently fix the pictures, but while undergoing this operation they must not be allowed to stick together: the fixing solution must get fairly over every part.

If blisters appear after fixing, immerse the prints in a bath of common salt and water for a few minutes.

We may deal with the removal of stains in a future number.

One hour's washing in *running* water is enough if there is plenty of water entering and passing out of the vessel, and the prints are moving about, but they must not be dashed about, or the surfaces, which are tender, will be damaged.

After washing, the surplus water may be absorbed by blotting paper or a cloth free from "fluff," and the prints laid out—face up—on a newspaper to dry.

The following developer gives a warmer tone than ferrous oxalate and requires no clearing:—

No. 1.

Sodium Sulphite ...	10 drams.	Eikonogen	60 grains.
Hydroquinone ...	40 grains.	Water to make...	10 ounces.

No. 2.

Sodium Carbonate ...	3 drams.	Potassium Bromide	5 grains.
Sodium Hydrate ...	30 grains.	Water to make ...	5 ounces.

To make two ounces of developer, take—

No. 1 ... 1 ounce. No. 2 ... ½ ounce. Water ... ½ ounce.

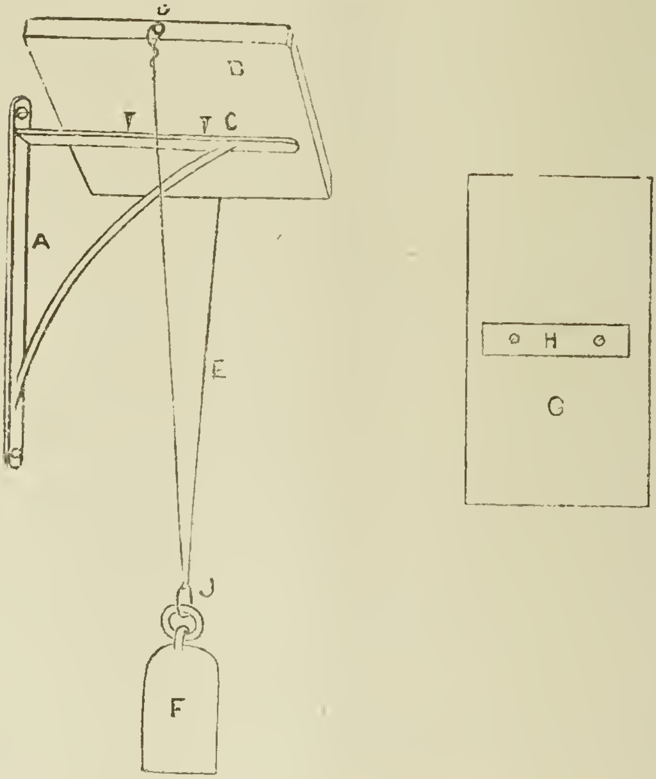
If half of No. 1 is replaced by old developer, a sepia tone is produced, and if old developer alone is used, a warm sepia is the result.

Dr. Jumeaux's eikonogen solution gives the most intense black we have yet seen produced by any developer, but we prefer the tone when half an ounce of water is added to the ounce of developer. No clearing is required, and half the ordinary exposure is sufficient. A considerable amount of time is saved by its use, and to work it is simplicity itself. It is the *beau ideal* of a bromide developer, and we venture to think that it will be largely adopted.

Home-made Apparatus.

IT is our intention to give, from time to time, particulars o useful apparatus and appliances which may be made at home by those who are disposed to help themselves.

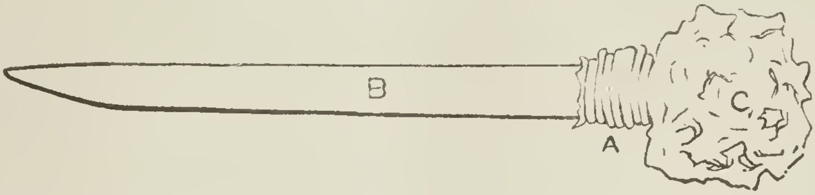
A SIMPLE ROCKING SHELF.



Whoever has used a rocking shelf in developing operations will realize its value and would be loath to dispense with its services When properly erected it will throw the developer, or whatever it may be used for, backward or forward much more evenly than can be done by rocking a dish in the hand, besides more thoroughly mixing the solutions. But the greatest advantage will be found by those who practise tentative or gradual development The dish with the plate and first dose may be placed upon the shelf with the certainty that all parts of the negative are receiving an equal share of the developer, and the hands are at liberty for the purpose of preparing the second dose or attending to any other little matter.

The illustration shows the rocker in position, as seen from underneath. It consists of a piece of a board, an iron bracket, a length of wire, and a weight. The board B should be moderately thick so as not to warp; a piece about 9 x 6 and 1 inch thick will be found a useful size. If a cross piece is screwed at each end on the underside they will help to preserve the wood from the effects of water. In the centre, two pointed steel pins C are to be inserted, forming a pair of legs. They should project equally. Wire nails may be used, but steel bodkins or thick needles will carry finer points. G shows the top of the shelf. As the heads of the pins must not project, and the constant rocking and weight would tend to work the pins through the board, a groove should be made across the top and a metal plate H let in and screwed down so as to catch the heads of the pins. This plate may be dispensed with by inserting two sprig bits—of course without handles—on the underside and filing off the points that would project through the top. The projections will keep them from working through, and the chisel edges should be placed lineable with each other. The iron bracket A may be purchased from the ironmongers, but should be strong and of a true angle. It may be fixed to a bench or the wall by the screw holes top and bottom. A length of strong wire E is twisted round the projecting screws D inserted at each end of the board, and passed through the ring of the weight F. When the surface of the board has been tried with the spirit level, to get it truly horizontal, the weight should be tied in position at the point J. Almost any piece of iron or lead that is compact and heavy enough will serve for the weight. The heavier it is, the longer the shelf will rock, but the weight must be consistent with the strain that the bracket will stand. We may add that the points of the pins will rest with safety on the flat upper surfaces of the bracket, and holes to receive them are not needed.

A PLATE-BACKING BRUSH.



A brush made of bristles or fibre is not suitable for backing plates; it puts too much substance on the glass. The result of this is that an unnecessary amount of time has to be spent in the dark room while the backing is drying, and there is greater danger of loose dust causing pinholes on the film, if the slides are shaken in transit to the field of operations. There is no need for a mass of colour on the back; it is quite sufficient if the glazed surface is deadened so as to destroy the reflection. The brush shown above will accomplish this end. C is a piece of sponge bound round the end of the stick B with the cord A. The wood from an old penholder or a pencil will serve, but the end must be securely covered with the sponge. Let the backing colour be as fine as flour; mix with gum arabic, and take up as little colour as possible with the brush.

Algiers and Constantine.

(Continued from page 243.)

THE rattle of the cable has ceased, we are at anchor—(view)—in the harbour of Algiers, which is protected by the historical Breakwater, but has no landing stage. After taking leave of our few remaining fellow-passengers and the officers, we hired a small boat to convey us ashore.

My first attempt to catch an Arab—(view)—the result being, as you see, that I caught an inquisitive Frenchman instead, who is trying to unravel the mysteries of a Kershaw's Shutter. There are three negroes, coloured gentlemen, who are evidently not less interested. (View.) One of the best streets in Algiers, in the Arab quarter, the figure in the foreground, is that of a man, and the other a woman ; this view affords a very characteristic example of their architecture. You will notice the grating in the wall, which, in a climate always warm, is all that is necessary.

(View) Near the Acclimatization gardens. Every Arab who does not possess one donkey, and at the very least, one wife, is considered a beggar. The foliage in the background consists of dwarf bamboos, from ten to fifteen feet high.

After a very pleasant drive of half an hour, we arrive at the entrance to the jardin d'Essai. (View) Opposite is this very beautiful French Café ; I was just about to take a view when five soldiers appeared on the scene, and all was bustle and confusion ; so, to attract their attention, I gave a loud whistle, they turned to look for the cause, and the effect was, that their impressions were imprinted for ever on an Edward's X L dry plate, one second exposure.

(View.) The entrance to the jardin d'Essai. The avenue is of date palms, but owing to the wind and an absence of direct sunlight, the photo is hardly a success.

. (View.) An Avenue of giant bamboos. Here is a pleasant retreat during the sultry days of April, May, and June. I cannot convey to you by this view any idea of the ever varied and beautiful colours of the bamboo canes as one sees them in this avenue.

(View.) This is another of the many avenues of the garden. These trees are a species of fan palm, whose rich brown trunks are almost buried by festoons of roses of the most exquisite colours,—you can, perhaps, distinguish several fine *gloire de dijon* roses in the view.

(View.) A fine specimen of the New Zealand hemp plant, under one leaf of which I and my friend found perfect protection from a passing shower.

All these avenues radiate from this fountain—(view)—and my companion here appears to much greater advantage, contemplating the fairy-like scene before him, and by the unselfish aid of photography we may in a measure enjoy it along with him.

(View.) The curious trunk of the banyan or ficus indica, remarkable for its vast rooting branches, and its sap which furnishes india rubber.

(View.) This might fairly be entitled—"Contemplation," but it is really a frog pond The amphibious and noisy inhabitants of this pond have a charm for the dainty Frenchman, and here he loves to meditate on the juicy morsels, innocently disporting themselves in the water, where, when unmolested, their "croaking" outrivals the cackling of a flock of geese.

Leaving the garden, and mounting the hill behind the café, a most beautiful view of Algiers and the harbour is obtained. (View.) The light, however, was very unfavourable when I took this picture.

After this very pleasant excursion we saw our friends aboard at five p.m., as the vessel was timed to sail at six; but she did'nt,—(view)—for this was the appearance she presented to us as we strolled along the boulevards at midnight. Her anchor was entangled, and could not be raised; ultimately, the cable had to be cut and the anchor lost.

The arab cafés in Algiers—(view)—are innumerable, and although the French are not always welcomed, foreigners (and I suppose we were such) always are, and it is here that one sees true Oriental life—a life not exactly of dissipation, for their chief beverage is coffee, but of careless, listless idleness; a sort of supreme indifference to the ordinary cares of life.

This negro—(view)—would not sit for anything less than two shillings. He had received five shillings the week before for sitting to an artist, and he would not even look at a camera for less than two shillings.

An arab chief—(view)—one of the wanderers, nomadic and treacherous by instinct, this man has sworn allegiance to France, as the medal which decorates his breast proclaims.

The image of St. Geronimo—(view)—who was the first convert from the mohammedan to the catholic religion, and was martyred, by being buried alive in the city wall, which was being constructed at that time; the cruel Dey of Algiers superintended the atrocity in person.

Leaving Algiers by rail at six a.m., we reached Constantine at midnight, after a most tedious journey through the wildest of scenery imaginable.

(View.) A distant view of Constantine from Salah Bay. Constantine is situated on the borders of the Great Sahara, in a highly volcanic region. The city is naturally fortified by its unique position—(view)—and may well be called by the Arabs, "The City of the Air." It is situate on the summit of an immense rock, rising precipitously from the plain on one side, and on the other three sides riven asunder from the adjoining rocks by volcanic agency, and separated therefrom by a chasm, varying from 300 to 700 feet in depth. The river Roummal flows beneath, and is spanned by one natural arch of immense size.

If we project a plan of the city upon the screen—(view)—you will be better able to understand the situation.

The bridge of Elkantaia—(view)—which spans the chasm.

I will now ask you to accompany me to the hospital, from whence a fine view over the plains of the Roummal is to be obtained; these plains abound with game, lions, wild boars, serpents, scorpions, and all sorts of amiable animals.

I obtained permission from the governor of the hospital to enter the courtyard—(view)—accompanied by a porter, for the purpose of securing this photograph. I had taken the photo, and was meditating on the abvisability of taking a second one, so as to make more sure of a good result, when I found myself surrounded by a very seedy looking crowd of convalescent patients, and naturally I began to wonder as to what affliction they might be recovering from. Turning to my conductor I addressed him thus, in French:—

"From what maladies are these people recovering?"

"Oh!" replied he, "from small pox, from measles, from scarlet fever, from typhoid———."

That was enough for me. I packed up the camera when I got outside, and for the next few days, believe me, I felt all the symptoms of small pox.

(View.) A view across the chasm. The Arabs are fond of keeping pet storks, two of which are on the houses in the picture before you.

(View.) A view of the Cascades of the Roummal. Unhappily, I did not introduce a figure which might have helped to convey a better idea of the magnitude of the falls.

(View.) Constantine is a rendezvous for all the Arabs of the desert, who bring in corn and dates from the Oases, and their caravans present a very picturesque appearance.

(View.) Camels waiting at the market place for their respective riders. I tried to mount one myself—I tried, that was all.

This shews the method of hitching a camel to prevent it from straying away whilst grazing; as you will notice, one leg is tied up in a very cramped position.

(View.) In the Arab market.

(View.) "As stupid as a mule."

(View.) "High change."

(View.) The girl on the left is a native of Constantine, a Kabyle, and the other a negress.

(View.) A true type of Kabyle Arab. The Kabyles are a settled and more civilized tribe than the nomads, and the young men of twenty or twenty-five years of age very much resemble each other in features. This is a true type.

(View.) An Arab blacksmith. Leaving Constantine we returned to Algiers, and from thence visited Blidah, a town about forty miles inland, from whence we made many delightful excursions The most enjoyable excursion, perhaps, was to the shrines of Blidah, under the shades of the sacred olive groves, amongst the mountains.

(View.) In the sacred woods of Blidah; an Arab tomb or marabut, beneath which the saint is buried. It is sacrilege to enter here without removing one's boots, but we can look in all the same, and a very singular sight it is, there are the chief's bed and his shoes, his gun and weapons, flags and trophies illuminated by two feebly burning lamps. (View.) In the cemetery, showing Arab pilgrims. (View.) Three young Arab boys amongst the tombs. The middle one is on strike for more pay, he won't hold up his head till I promise to give him sixpence instead of twopence, so I let him hold it down. It adds to the variety of the group.

(View.) Some primitive Arab dwellings by the way side.

The longest day comes to an end, and so with our trip to Algiers. We were loath to depart, not only because of the charms of Algiers, but. because of the "white horses" plainly visible just outside the harbour—I will draw a veil over what followed—no more photographs—no more detective shots—I kept watch below for three days. At first fearing that the vessel was going down, and then fearing that she was not,—and heartily glad were we when we found ourselves anchored to leeward of the île du Chateau D'If, off Marseilles; the harbour of which town is so badly constructed as to be unavailable during a storm. We rode at anchor during the third day, unable to land cargo or passengers because of the Mistral which so often sweeps those shores. Ultimately, we landed and travelled overland viâ Lyons and Paris, and arrived at Boulogne—(view)—of which I secured this parting view, and even the trip across the channel convinced me, that—

"There's a queer sort of up and down motion,
In a life on the treacherous ocean,
That has filled me at length with the notion,
That I never was meant for the sea!"

and the most welcome sight of all was, the chalk cliffs of Dover.

Correspondence.

A PHOTOGRAPHIC HOSPITAL FUND.

Dear Sir,—Will you kindly allow me to bring before our Members a scheme suggested in the article on "Philanthropic Photography" in last October's *Record*. An admission was therein made, which I think amateurs in general might own, that the art had been studied up to that point, more for selfish ends than in any philanthrophic spirit. I was particularly impressed with the thought at the time and have been hoping someone would take it up in a practical manner. There are few pursuits in the domain of Art—painters will pardon the presumption—in which such pleasureable results are obtained with such limited skill or pains. I do not desire in any way to discredit photography by this statement. But if an amateur can produce, after one or two seasons' practice, a print, which, in its sphere may be compared with the work of an accomplished hand, it cannot claim to much skill in the acquirement; and how easy it is to make extra copies. Now, we are taught that if our deeds of charity cost us little, it is little credit we can expect for them, whatever value they may have to the recipient, and if that value be great, our responsibilities are made great accordingly. It has also been said that pleasure cannot be enjoyed until it is shared—the more we give the more we receive, and the most, according as we give to those who are least able to provide it for themselves.

It was after a visit to one of our hospitals that I was struck with the advantages amateur photography possesses of rendering real happiness to others. Only those who have lain long on a sickbed know the monotony of time. Literature, in most cases and for obvious reasons, loses the charms it has in good health. But the sight of a rich landscape full of detail, of scenes familiar or otherwise, will brighten many a weary hour and quicken the imagination which has grown dull and sluggish for want of fresh scenes and thoughts to reflect upon. If every photographer could realize the joy one such print creates in a convalescent ward, there would soon accumulate a good stock of photographs in every hospital and workhouse in the country. And such there ought to have been long ago. Is it not time for us to give of our talents as well as of our money? It has too long been the fashion to absolve ourselves of our duties to the sick by the donation dropped into the Hospital Sunday box. The energy spent in acquiring that amount might have gone much farther expended direct. We pay others to do work we often could do better ourselves. The half-crown given by the amateur photographer, for instance, would be a larger amount spent in prints from one of his best negatives. I trust I am not misunderstood here. Far be it from me to suggest anything that will tend to reduce the annual hospital collections. I wish them increased by collecting results from talents as well as profits.

I would therefore suggest that our committee start a Hospital Fund in connection with our Society for the receipt of prints from Members, not annually, but at every Monthly Meeting and whenever Members might choose to send them. And, instead of having them mounted in albums, which are too heavy to be held by a patient in bed or on a couch, let them be put on cardboard mounts so that they can be distributed at will. Let those who cannot afford mounts send their prints without, and let us vote a sum from our cash account to provide mounts.

We were complimented by a photographic journal a few days ago upon being a model Society, we shall never do anything which will give more claim to the title than the adoption of this proposal. I venture to predict that not only will other photographic societies follow our example, but we shall stir up a worthy spirit of emulation in societies pursuing other studies, and, doubtless, shall move many others to individual action in the same direction.

Believe me,
Yours sincerely,
No. 41.

Our Wide Angle Lens.

Anglol-Quinol Developer.—This is said to give clean dense negatives with very short exposures. Perhaps some of our Members will test it for snap shots and say if it possesses the valuable qualities which are claimed for it. The formula is in one solution.

Sodium Sulphite	6 drams.
Anglol (or Eikonogen) ...	30 grains.
Hydroquinone	40 ..
Citric Acid	20 ..
Potassium Carbonate ...	3 drams.
Water (hot)	10 ounces.

The citric acid must not be introduced until the other ingredients have been dissolved. This will produce a citrate of potassium, which is a good restrainer and tends to a clean negative without the use of special clearing solution. A little additional potassium carbonate may be made up as a separate solution for cases where more acceleration is needed. To 6 drams potassium carbonate add 5 ounces of water. The developer will take an unusual quantity of this without fogging.

Question Box.

Exposure for Interiors.—Can you give me any idea of the exposure required for interiors?

Ans.—For an interior having uncoloured glass windows, and free from very dark corners, 10 or 15 minutes with *f*32, would be plenty of time, supposing ordinary or 30 times plates were used in diffused light. Church interiors containing tinted glass windows and old oak timbers require a great increase of time. Mid-day, when the sun is highest, is the best time, and diffused light is to be preferred to sunlight. Good negatives have been obtained by different members at the following places, with the exposures attached. The quality of the light and plate used are not given.

Haddon Hall Ball Room	*f*24,	10	minutes.
do. do.	*f*32,	5	do.
Chester Cathedral Choir	*f*32,	30	do.
do. do.	*f*8,	15	do.
Manchester Exchange Switch Room	*f*22,	30	seconds.

Detective Work.—Is a Rapid Rectilinear Lens the best for a detective camera? If so, at what aperture should it be worked and what focus is preferable for a quarter plate?

Ans.—Use a R. R. that will work at *f*8. If stopped down more than this, the exposure would not be sufficient for Manchester street scenes. About 4½ inch focus is suitable.

Number of Members.—How many Members are there now in the Society?

Ans.—338.

Annual Dinner.—What about the Annual Dinner or "Smoking Concert" this year?

Ans.—The Council have not done anything in the matter. They are awaiting indications of the Members' wishes for next winter.

Ilford Thin Glass Plates.—What is the weight of the Ilford thin glass plate, as compared with the ordinary make?

Ans.—About 20 per cent. less.

Exposure for Bromide Paper.—In Mr. Wheeler's paper on "Bromide Printing" he gives as the exposure of an average negative 60 to 90 seconds at a distance of 1 foot from the gas. Is this correct?

Ans.—The exposure named is right when you take into consideration that the developer is 50 per cent. weaker than that usually given, besides being well restrained, and that Mr. W. objects to white-washed skies.

Jumeaux Developer.—Has any Member experimented with the "Jumeaux" developer shown at our last meeting?

Ans.—Five or six Members have tried it and their verdict is that it is a most exquisite developer for instantaneous negatives, also for bromide paper and lantern slides.

Fixing Bromide Prints.—How much water should be added to a sat. sol. hypo. to bring it to the proper strength for fixing bromide prints? Would half and half be too strong?

Ans.—One in five or six is sufficient. Half of each is liable to change the tone of the image. See paper in this number.

Discoloured Ferrous Sulphate.—Is a sat. sol. of iron worthless for ferrous oxalate when it becomes discoloured?

Ans.–Yes, if red. When good, it should be a bright green.

Dropping Bottles.—Is the use of a dropping bottle to be recommended?

Ans.—Very useful for adding drops of ammonia or bromide, for the stopper does not require to be taken out. Ammonia is but water impregnated with gas, and a dropping bottle preserves its strength.

Focussing.—Should focussing be done with open aperture or with the stop which it is intended to use for the picture?

Ans.—We prefer the open aperture as giving plenty of light and have never found any difficulty to arise from this method. Mr. H. B. Robinson in the *A. P.* recommends focussing by the stop which it is intended to use in the exposure.

Nomination of Members.—What is the latest date on which nominations of new members should be handed in to the Hon. Secretary.

Ans.—Not later than the first day of the month in which the election is to take place.

Furnivel's Camera.—A London firm are now advertising the "Furnival Camera." Can any of our Members tell me if this camera is made by Mr J. A. Furnivel of this city?

Ans.—The name is spelt differently. Mr. J. A. Furnivel's deservedly well-known camera can only be obtained direct from the maker. We may add that the Manchester made camera is a thoroughly sound affair, and we can recommend it, having used one for years past

Kodak Cameras.—Are Kodak cameras superior and in what respects to other cameras?

Ans.—The original Kodak was suitable for taking pictures in theory; and useful for disturbing the bile. At the June Meeting, Mr. Hughes said he parted with his without shedding a tear. The larger sizes lately introduced are said to be better.

Light in Dark Room.—Will an orange or yellow light be safe for all practical purposes in dark room?

Ans.—Orange may do if the light is weak. Test with a quarter-plate exposed for 15 minutes, and half covered. Develop, and then see if the light has affected it.

Yellow Stains in Negatives.—What is the cause of yellow stains in negatives developed with pyro-ammonia.

Ans.—When the development is prolonged, the film is stained by the oxidized pyro, or the bath may not be thoroughly clean. Follow with a clearing solution.

North Wales.—Can any Member suggest a favourable district in North Wales for a week's holiday with the camera?

Ans.—Conway is a good centre to work from. There are some good subjects about the town, and an abundance within a short railway journey. Menai Bridge might suit.—Victoria Hotel, Anglesey.

Rhyl and Llanfairfechan.—Could a reasonable number of pictures be had in a week's time in the neighbourhood of either Rhyl or Llanfairfechan.

Ans.—Plenty of pictures within a short distance of the latter place.

Sale and Exchange.

[Our Sale and Exchange columns are open to subscribers free; to non-subscribers a charge of 4d. will be made up to 12 words, and ½d. per word extra.]

Wanted. A Laverne ¼-plate R. R. Lens. H. Norris, 15 Seymour Grove, Old Trafford.

On Sale. Kershaw's Shutter, with flap attachment for time exposures; will fit 1⅞ lens; interchangeable rings can be inserted for less sizes. In good condition, 10/-. Can be seen at 46 King Street West.

For Sale. Billcliff's ½ plate Long Focus Camera, with revolving back, rising and falling front, &c. 3 double dark slides. No stand or lens. P.B. Box 53, G.P.O., Manchester.

On Sale. A Washing Tank with Syphon for ½-plate negatives or ¼-plate prints. Perfect. 2 6. Apply, Eiko, care of Editor, 46 King Street West, Manchester.

For Sale. Wray's 1/1-plate Rapid Rectilinear Lens. Nearly new. Price £3 10s. Address, Z, 46 King Street West.

All *business* communications to be addressed to the Hon. Sec., Mr. R. O. Gilmore, Solicitor, 1b Cooper Street, Manchester.

Items for the Sale and Exchange Column, Correspondence, Question Box, &c., should be addressed to the Editor, Mr. Geo. Wheeler, 46 King Street West, Manchester.

THE
PHOTOGRAPHIC RECORD

THE ORGAN OF THE
MANCHESTER AMATEUR PHOTOGRAPHIC SOCIETY.

No. 13. OCTOBER. 1890.

CONTENTS

Page
General Notes 297
The Development of Dry Plates ... 300
Hydro-Eikon-cum-Soda 303
Clouds in Bromide Pictures ... 304
Ourselves—Historical 306
Bromide Printing 307
Home-made Apparatus 309
Page
Rambles—Marple 311
,, Arley and Great Budworth 311
,, The Valley of the Irwell ... 314
Correspondence 315
Our Wide Angle Lens 316
Question Box 319

General Notes.

The ramble season just terminated has not been as great a success as those of former years. Several unforeseen circumstances, such as the repair of Moreton Old Hall and pressing business engagements of several leaders, have been contributory to this end, but the greatest hindrance has been the unusually indifferent summer weather we have experienced.

⁂

The coming winter promises well for lantern work. In addition to the Norway pictures which Mr. Paul Lange, president of the Liverpool Society, has promised to exhibit in November, several members have been "picture making" abroad during their holidays, and doubtless we shall see some of the results. While these are sure to be interesting, we cannot dispense with our local views.

The Council have undertaken to supply six lantern exhibitions during the winter, to be given at the Lads' Clubs and Ragged Schools connected with the Manchester and Salford Recreative Evening Classes. This is a good work, and we have no doubt that it will receive the hearty support of every member.

⁂

That wisdom was displayed in purchasing the 10 x 8 camera and outfit for the use of the members, has been amply proved, for not a week has passed since its acquisition, but it has been applied for, and, as we may reasonably surmise, given pleasure to those who have used it. It is a splendid instrument and has clearly met a "felt want."

Upon enquiry, we learn that the enlarging lantern is also being put to good use. As the winter comes on, we expect its services will be more frequently called into requisition.

⁂

Our Magazine has been in existence over three years, and this number, the thirteenth, completes the first volume. We have every reason to suppose that it has fulfilled the mission for which it was commenced, and been creditable to the Society. There has been no attempt to conduct it as the organ of a society of savants, nor as a business speculation, but simply as a record of the papers, demonstrations, &c., given before our own Society, so that in a permanent form they may prove more practically helpful. Other minor purposes have also been served, such for instance as supplying a medium, open to all members, for ventilating subjects and opinions, and we think it has assisted in some measure to keep us in touch with each other.

Many of the papers and communications have been prepared at a considerable sacrifice, purely for the sake of imparting information and help, and are worthy of more than the transitory existence which would have been their lot had they been merely read before a monthly meeting. As it is, they can be referred to time after time, and their value fully utilized.

⁂

An index and title page was promised to be issued with this number. For several reasons which we need not mention, we have not been able to accomplish our intention. It will be issued with the next number, but any wishing to bind their volumes earlier, can obtain a copy in about a week's time by applying at 46 King Street West.

⁂

The picture "On the Goyt" for which one of our members, Mr. J. Kidson Taylor, received the "Amateur Photographic" Silver Medal, in a competition for the best landscape, has been reproduced as the frontispiece to the title in the first number of the new edition of the "Photographic Societies' Reporter." The original makes a beautiful picture, with fine sky effects.

⁂

Several lots of prints and an album have been received for distribution among the hospitals in the district. Almost every member must have a stock of spare prints. Send them in, mounted or unmounted ; they will be put to good use.

⁂

Advantage has been repeatedly taken by the dealers, of the suggestions and ideas given in our magazine. Some time ago two of our members made models of a sky shade for use with their lenses, and exhibited them at the Athenæum. Shortly afterwards the identical arrangement was offered for sale by one of the London houses. In our last number a diagram and particulars of a simple Rocking Shelf was supplied. This has also been copied and registered as a Professional Rocking Shelf. It is advertised and offered for sale at five shillings. We don't object to this—indeed we cannot help ourselves—but we should like to have had the credit given to our Society for the ideas, or some acknowledgment made.

⁂

When our Society came into being about five years ago, we were dependent upon the ordinary photographic journals to give us a passing notice, as their space would allow. To none of these were we more indebted than to *The Amateur Photographer*, and the pioneers of our Society must have felt the influence of the words of encouragement they received from the conductors of that journal. Elsewhere we reprint an extract from an old copy of the *A. P.* which has been forwarded to us, and we venture to say it will be read with great interest as a record of the early efforts of the child, which has since become a man, to feel its feet.

⁂

The Photographic Survey has made a considerable amount of progress. If a list of the negatives which have been taken could be displayed, it would make a very respectable appearance, and would surprise those who have doubted that the scheme had strength enough to stand. Now that the out-door season is drawing to a close, Mr. Wilcock, the enthusiastic Secretary of the Survey, will be anxious to tabulate its position, and members would assist him if they would send in an account of what they have done. In our expectations we cannot ignore the difficulties which the past wet summer has created. Many a planned expedition by individual members has been frustrated by the rain, or the uncertainty of favourable light. Yet, notwithstanding these drawbacks, a distinct advance has been made, though not by any means sufficient to ensure a complete success. It will be readily comprehended that the scheme will have to be carried forward into another year. We could hardly expect that such a work, based on self-denying labour and surrounded by numerous difficulties, could be completed in one year; perhaps two years will not see its termination, but it will be done. Hitherto our Society has not failed in any work it has undertaken, and it will not fail in this. As soon as opportunity serves the Committee ought to bring the matter forward at the Monthly Meetings, and keep the fire burning.

The Development of Dry Plates.

By Mr. W. I. Chadwick.

Read before the Society, July 8th, 1890.

BILLIARDS is a very scientific game, as many of you are aware. I can remember taking up a cue for the first time, making a most difficult cannon, besides going in off the red ball. This would have been a very good stroke for an experienced player, but there was no credit due to me, for at the next stroke the ball took a course quite the opposite to that which was intended, and the few succeeding strokes clearly proved that I did not understand the game.

We have known many amateur photographers expose and develop their first plates with almost surprising success, but there was very little credit due to them as photographers, because the next few plates "took a course quite the opposite to that which was intended, and clearly proved they did not understand the game."

You all know there are hundreds who can play and sing moderately well who do not understand a note of music, and on the other hand there are scores who have been taught the theory of music who can neither play nor sing fit to be listened to. You will never become an artist by simply reading books on art—though they may improve your ideas—and we cannot hope for much success in photography by adhering steadfastly to certain lines, rules, and printed formulæ.

The conditions in landscape photography are so variable, that the slightest change of subject or conditions of lighting render it impossible to produce good or uniform results by any rigid rules or fixed developers. There is something in the exposing and developing of a negative that cannot be acquired from books, and which nobody has the power to teach, but which everybody has the power to learn.

In addressing myself to the younger members I will do all I can to help you; the rest you must do yourselves.

If we were to go into the theory of photography, we should soon be out of our depths, for there are many things which are unexplainable to this day. The fundamental principles of photography are as yet unknown quantities. We do, however, know that light acts upon certain salts of silver in various ways, and in some of them in such a manner that upon the application of reagents or reducers called developers, changes are produced with which we are perfectly familiar by observation, carefully conducted experiments, and research, and it is with some of these changes we have to deal to-night.

It has been said, the exposure is the stumbling block of most beginners, and it may be true to some extent. but a little knowledge in the art of development would assist the tyro more than all the exposure tables in the world, because they do not deal with fixed quantities. and it is impossible that they ever can. If we multiply 10 by 6 and divide by 5, the answer will be definitely 12. because we have dealt with three fixed quantities, but if we multiply 10 by 6, add the day of the week and divide by daylight, we shall find ourselves "in the dark."

If it were possible to formulate an exposure table to be useful, it must be based upon nothing but fixed quantities, a standard plate—there are none yet—and a standard developer. But as I have said, in landscape photography it is quite impossible to regulate the view or the exposure to suit the developer, and the only way to succeed is to regulate the developer to suit the exposure and the subject. There should be no such thing as a standard developer, or a one solution developer, except for scientific experiments or investigations.

It will presently be shown that the formula issued by the various plate makers must not be strictly adhered to, and never is by experienced photographers, nor must the rapidity of one plate be taken as a standard against another, for a plate correctly exposed for one system of development might not be so for another method. For instance, on a given subject if two plates from the same box were exposed under the exact same conditions and developed by two different methods, one might be over and the other under-exposed. or in other words the results might be *one negative* from which bold vigorous prints could be obtained, whilst from the other nothing but flat, mealy prints would be possible. Now a digest of what has been said points to the fact, that to be able to produce the effects we desire, experience is required, and the only way to gain experience *quickly* is to adopt *one* method. You will never be a musician by trying the flute, the fiddle, and the tambourine, and you will never be well if you take the physic and advice of half a dozen doctors at a time. Speaking of doctors reminds me of the old saying which implies that they do not always agree, but I do not think doctors disagree more than photographers P, a man who exhibits excellent work tells us that he develops with pyro and ammonia; H, another man, producing equally good work informs us that pyro is by no means so good as hydroquinone, and E, the next man, declares that neither pyro nor hydroquinone will develop a plate without fog, and eikonogen is the only developer that will produce good negatives, and so on, and so on. Now, what nonsense this is. We know that if pyro and ammonia produces good negatives with P, there can be no doubt that it would do so with H, or E, *if they used it the same* *way*, but the fact that they do *not* is manifest by the difference in their results; and it is probable that those who cannot develop with pyro, bromide, and ammonia, have either not studied the functions of each constituent, or, not practised with them sufficiently to familiarise themselves with the results they are capable of producing.

Ferrous oxalate, hydroquinone, and eikonogen developers, are excellent under certain conditions, but they are not capable of producing the various results that are to be obtained by pyro, bromide, and ammonia. But, as a friend said to me the other day, "I admit you can produce a variety of results with pyro, bromide and ammonia, that cannot be accomplished by anything else, and in my hands the results are *too various*, and never twice alike." Here my friend testified to the advantages of the pyro developer without knowing it. The fact was he used it always the same way, in fixed quantities of each, no matter under what conditions of light or exposure; indeed, my friend practically used the pyro, bromide and ammonia *as a one solution developer*, and as has already been observed, a *one solution or a standard developer* abolishes all means of control, and the results entirely depend upon the light on the subject and the exposure. But if we are to use the pyro, bromide, and ammonia, we must have some formula or basis you would say. Here then I will call your attention to the formulæ issued by the various plate makers, which are simply intended to convey an idea as to what extent the constituents may be used—the amount of ammonia they will stand without fogging, &c.—and it is by compounding these in the most fitting proportions that we arrive at the *art of development*.

Pyro is *the* developer, ammonia is the accelerator, and bromide is the restrainer, and as each has its own particular functions, they should be kept separate, and compounded as required or to suit the circumstances. Remembering that pyro is the real developer, in the presence of ammonia pyro gives density, bromide permits density by preserving contrast, gives brilliancy, prevents the development of detail, and may produce hardness. Ammonia produces detail and softness, which, carried to excess, may lead to flatness. Exposure also produces detail, softness and flatness; under-exposure produces hardness and lack of detail. Exposure too, facilitates development, but only under certain conditions, for excess of exposure retards development as is often observed in the thinness of high lights and skies for instance, and when exposure is carried still further we have the reversed action of light by no development at all. Thus, the less the exposure, the more ammonia and less bromide should be used, and for more exposure less ammonia and more bromide may be necessary.

Thus it will be seen that if the plate has had a fair exposure, almost any result may be produced. and this is of the greatest importance. Let us take an instance. say a landscape, if it be flat and wanting in contrast, probably owing to a dull leaden light, we should increase the bromide considerably and reduce the ammonia and probably increase the pyro too. Whilst on the other hand, if the subject was say an ivy-clad castle. in brilliant sunlight, presenting strong contrasts. which with a "normal" or "standard" or "one solution developer" would produce a hard negative, we should reduce the bromide, and increase the ammonia, or considerably weakening the pyro would produce the same effects. and by diluting the whole developer the image would develop up slower with reduced contrasts.

The conclusion then at which we arrive is, that given two plates exposed at the same time, on the same subject and under similar conditions in all other respects, it is only a matter of development to produce two utterly dissimilar negatives.

Hydro-Eikon-cum-Soda.

BY MR T. MORLEY BROOK.

Read before the Society, September 9th, 1890.

AS a developer for bromide paper, this is to my mind. a very great improvement on ferrous oxalate for the following reasons. It does not stain the fingers. It will keep indefinitely. It is cheaper. It is more under control. It does not require the acid bath, and is less trouble every way.

I was very much pleased with the tone Mr. Wheeler got with the Jumeaux developer at our last meeting, and straightway ordered a bottle, but gentlemen, I do not know of what it is composed, and in consequence I could not rest satisfied with it. I set to work at once to try and find out, if I could, a developer of known ingredients that would do the work equally as well. Having a little eikonogen and quinol by me, after making a number of experiments and a great mess, in addition to spoiling no end of paper, I think I have succeeded in doing so, at any rate I am quite satisfied with it, and never again will I have anything to do with ferrous oxalate. To prepare the developer take

No. 1.	
Hydroquinone	40 gr.
Eikonogen	160 ,,
Sulphite of Soda ...	960 ,,
Citric Acid...	20 ,,
Distilled Water ...	20 oz.

No. 2.	
Bromide Potassium ...	10 gr.
Sodium Carbonate pure crystal	180 ,,
Sulphite of Soda ...	480 ,,
Distilled Water ..	20 oz.

To make for use take equal parts of each.

In making up No. 1 solution be sure to dissolve the sulphite of soda and citric acid before adding the quinol and eikonogen. If you must have a one solution developer mix them together in a well stoppered bottle, but for my own practice I prefer to keep them separate as by doing so they will keep better, and I can alter the proportions to suit my negatives, or the result I wish for—jet black or soft greys.

Clouds in Bromide Pictures.

By Mr. Geo. Wheeler.

Read before the Society, August 12th, 1890.

An old saw says, "For want of a shoe the horse was lost;" we may supplement this by saying "for want of a sky the picture was lost." Without any sky, or an atmosphere, or something to indicate that the space above the horizon is not an empty void, the representation of a landscape is only half a picture and therefore incomplete. Unfortunately this condition applies to many of our photographic productions.

It is comparatively easy to print clouds in silver prints, and Mr. Wade has already dealt with the subject in a masterly style in his paper on "Combination Printing," but to adopt the same method to bromide printing entails considerable trouble, waste of time, and an abundance of spoiled prints before a satisfactory result is got. To overcome the difficulty I have adopted the plan of painting a sky on the back of the negative, and find that a good variety of effects can be obtained, and in a very short space of time. The examples which I have placed before you will give some idea of the improvement over blank or white-washed skies, which has been effected.

Negatives to be suitable for bromide printing should be developed with rather thin skies, so that when the exposure is made, the light will penetrate the film and produce a tone in the sky. To obtain a thin sky on a negative use less pyro and bromide than usual in the developer, and let the fixing be thorough.

Natural skies, taken at the same time as the views, must of necessity be preferable to painted or any other skies. These true copies of nature should be made to reveal themselves if possible, either by an extra exposure to that part of the negative containing them, or by strengthening with paint.

To paint clouds is not a difficult operation, but it needs to be done judiciously, and with some idea of representing natural appearances; it will not be sufficient to put a few dabs of colour here and there. Observation of the forms which the sky assumes, supported by experiment and perseverance will soon overcome any difficulty.

Paint the clouds on the back of the negative, which, along with the brush should be held upside down while the operation is being performed. This will cause the colour to flow towards the top of the clouds where the highest lights are required, and the point of the brush will form the sharpest edges where they should appear. The unusual position of holding the brush will be soon acquired.

Use "Payne's Grey" colour, which can be got from almost any artist's colourman. It is a natural semi-transparent water-colour and only obstructs the light by its density and not by its colour. Don't use reds or other non-actinic colours as they tend to a crude result. Take very little water in the brush with a small quantity of colour and apply it with a free touch, always commencing at the bottom and working upwards towards the landscape. Do not cover the sky with a mass of forms; a few outlines, top and side of clouds only, carefully introduced will prove the most effective in first attempts. When the colour has dried, breath upon it, and with the ball of the second finger go over the irregular lines of colour along the edges nearest the picture, patting and shaping it so as to soften it away to nothing. The finger end will be found to be an admirable working tool. When necessary, additional colour may be added, but as has been already hinted, do not overwhelm the sky or the effect may be unreal; rather aim at a suggestion or indication as a relief from the flat tone which would otherwise appear.

The aeriel perspective must be preserved, or in other words, the clouds must not appear as a map or a wall in front of the eye. The perspective formed by the objects on the land demands its counterpart above, and just as foreground objects are treated by the artist in a bold style, with strong contrasts, so the highest clouds, which are always nearest to us, and stand in the same relation as a foreground, must be made the most prominent. As the clouds approach the horizon, little more than the lower edges are seen, and these gradually assume streaky horizontal lines, with the darkest shades at their base, and fade away in the distance.

The well defined masses of cumulus clouds usually have their highest lights at the top and on the sides facing the sun. Sometimes they are simply margin-lit—a form which readily adopts itself to pictures and is easily introduced.

The side lighting must be correct with the lighting of the view. It would never do to have the landscape lit up from one side and the clouds from the other.

Nimbus, cirrus, and other forms and effects may be afterwards attempted, but should be left until experience has been gained.

To obtain soft edges to the clouds, the negative must be held diagonally to the light, and kept revolving during the exposure.

Mr. Wheeler then painted clouds on two negatives which he had brought with him, and made bromide prints from them using Dr. Jumeaux's eikonogen as the developer.

Ourselves—Historical.

From the Amateur Photographer, May 22nd, 1885.

The Manchester Amateur Photographic Society is already doing good and useful work. The inaugural address of the president (Rev. H. J. Palmer, M.A.). upon May 12th, was an example of what such speeches should be. We observe that the president alluded to several practical ways in which amateur photographers could make their pastime useful to the community at large. He particularly called for further work in the direction of preserving photographic records of ancient buildings and landmarks of the city of Manchester. These, he said, were rapidly disappearing, and he saw, each time he entered the city from the Ashton side, evidence of the gradual demolition of some fine old houses, named Gibraltar. Mr. Palmer's remarks on this topic will, we trust, be re-echoed, and that, too, forcibly, by the president of each Amateur Society and Association. Amateurs should work for the benefit of future generations as well as for their own present gratification, and by carrying into operation the sensible suggestion of Mr. Palmer, they will be laying up for themselves a mead of praise from future historians, civic chroniclers, and authors. We trust, too, the publishers of guide-books will carry into effect the shrewd and valuable suggestion concerning the indication of points of the compass, and best time for photographing noted scenes and buildings.

The Manchester Amateur Photographic Society have very wisely made arrangements for holding out-door meetings and excursions. Among the localities to be visited we notice Bolton Abbey, Taxal, Jumbles, Hawkstone Park, Alton Towers, and Mere Clough. A word of praise is due to the Hon. Sec., Mr. William Stanley, for the business-like and thorough manner in which he has prepared the agenda paper, the excursion card, and other circulars connected with his Society.

We have always had a great respect for the virtues of amateur photographers, but the virtues of the Manchester Amateur Photographic Society seem to us positively superhuman. Will it be believed that this Society made a visit this month to Hawarden, without insisting upon an interview with Mr. Gladstone, and without extracting from him any communication oral or written? This astonishing fact appears to us so incredible that we are tempted to assume that there must be some *lacuna* in the account of this excursion which has come under our notice. A digression upon the subject of photography would have been so easy for Mr. Gladstone to write, and so interesting to everybody to read.

The account of pilgrimage to Hawarden will give a momentary but fallacious satisfaction to Mr. O'Donovan Rossa. No sooner was Mr. Gladstone's study sighted than "shots at it were taken with astonishing rapidity." No less than thirteen patriots opened fire upon this interesting spot.

Bromide Printing.

By the Editor.

Continued from page 285.

ALMOST in spite of every precaution and care, a variety of stains and marks will occasionally exhibit themselves. This is especially the case when experiments have been made with different developers, and ferrous oxalate in particular is peculiarly liable to them. Some have a deposit of grey fog, others have yellow stains on the margin, and occasionally a green stain will present itself. Many of them are caused by the alkali being too strong, or requiring more bromide to restrain it, or else the exposure has been too short and in consequence the development has to be prolonged unduly. Most of the weaknesses can be removed by treating the prints with a dilute solution of potassium cyanide in which a few drops of iodine have been introduced. About one dram of the cyanide to eight ounces of water will usually be found sufficient, but it may be reduced or increased according to the stains which have to be removed. First soak the prints for five or ten minutes in water, then place them, one at a time, face up, on the bottom of a developing dish turned upside down. Dip a camel hair mop in the solution and go over the stains with it. They will disappear like exorcised ghosts. The instant the end sought has been gained, the prints must be put into clean water and well washed. This treatment will be found useful for bromide enlargements which are rather too costly to throw away lightly.

In our last contribution on this subject we recommended the Jumeaux developer as giving a good result with very little trouble. Many have objected to its use because they did not know the proportions of its constituents. We can understand this, for we were in a similar dilemma, and tried to get out of it. After many experiments, using means likely and unlikely, we worked out the following, which we offer for the benefit of those who feel inclined to try it. In our hands it gives a beautiful colour, engraving black, with soft pearly greys and nice gradation of the intermediate tones. While the resultant picture has something akin to ferrous oxalate in tone, it is free from the indistinct muddiness which often attends the iron, and the necessity for repeated clearing washes is absent.

No. 1.

Sulphite of Soda	1 oz.
Acetic Acid solution	10 minims.
Eikonogen	240 grains.
Water (hot)	10 oz.

No. 2.

Potassium Carbonate	120 grains.
Washing Soda	120 grains.
Potassium Bromide	10 grains.
Water (cold)	10 ounces.

To make 3 ounces developer take:—

No. 1 ... ... 2 oz. | No. 2 .. .. 1 oz.

When preparing No. 1 dissolve the sulphite of soda in the hot water first, then add the acid and eikonogen. It is quite possible that citric acid might serve in place of the acetic acid but we have not tried it, the latter ingredient having proved satisfactory. A portion of the crystals in No. 1 may refuse to dissolve, but never mind that, they will do no harm. Shake the bottle up well and so cause the water to absorb as much of the substance as possible.

It should be clearly understood in bromide printing that the exposure and the strength of the developer affect, to some extent, the tone of a print. A short exposure and a strong developer will cause the colour to be colder, or what some would term more black and grey, while a long exposure and a weak developer, one containing an excess of water, will tend to a warmer tone. This influence is only relative, for the chemicals used in the developer affect the colour fundamentally, while the exposure occupies but a secondary position.

Gelatinography.—A very rapid method of making newspaper illustrations, called gelatinography, is described as follows in the *American Stationer*:—"A black glass plate, or a tin plate, coated with black varnish, as used by sign painters, is covered with plaster of paris, (gypsum) to a thickness of four-sheet cardboard. The plaster of paris must be of the best quality and reduced to a very fine powder. Add thereto some alum and some sulphate of barium, and in order to prevent the coating from being too brittle add also a trifle of glycerine or of a gelatine solution. This mixture must have the consistency of a thin pulp when applied to the glass or tin with a soft camel's hair brush. When dry, the artist may engrave upon this coat of plaster of paris, by means of a lithographic engraving needle, any design or picture with the greatest ease; the plate or glass is thereby laid bare, and design or picture appears black through the plaster of paris coating. Mistakes or errors are easily remedied by filling in the plaster of paris preparation. A cast is then made with printers' roller composition of the picture or design on the glass or plate, in the usual way; some bichromate of ammonia solution should be added to the roller composition, to make the plate hard enough for the type press, and it will be as durable as any electrotype and answer the same purpose."

Home-made Apparatus.

HAND CAMERA FOR EASTMAN FILMS.

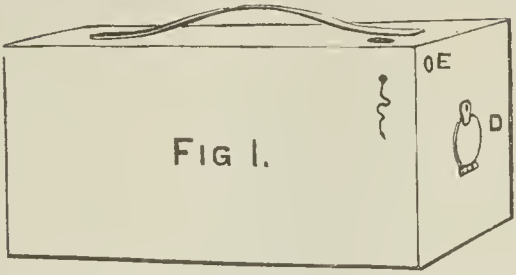


Fig I.

THE hand or detective camera of which we give particulars has been designed by Mr. J. T. Lees, one of our members, for his own personal use, and was exhibited together with many pictures taken by it, at the Athenæum. It is simple though ingenious in construction, possessing numerous advantages over those usually offered for sale, and is a thoroughly practical piece of apparatus. The cost is comparatively small, for supposing that we have already a good quarter-plate rapid rectilinear lens and a time shutter, we have only to purchase a roll-holder, and construct a light-tight box as hereafter described, and we have a camera equal to the best, and better than most in the market. For use during a tour, or for street scenes, it is a real desideratum, for the weight is trifling, the manipulation is easy, and a large number of exposures can be made without changing. The roll holder carries forty-eight films which are so sensitive that Mr. Lees can obtain pictures in the City of Manchester without the aid of direct sunlight; he only needs a fairly light day and obtains a surprising amount of detail and density. We may add that he uses a Dallmeyer lens which he possessed before he made the camera. The question of bulk compared with four dozen of glass plates is so self-evident that we need not dilate upon it, and the other advantages are, as the auctioneers say, "too numerous to mention."

Mr. Lees says: "Having an Eastman quarter-plate roll holder, and wishing to take advantage of the new rollable transparent films, I made a hand camera as per sketches herewith. In order to reduce the size of the camera to its smallest compass, I took away the front part of the roll holder and left only the box which carries the rolls. This box was fitted into a rectangular framework A, of common deal, round which the sides of the camera are built up; and as I have taken away the shutter, I replaced it by a swing door or shutter B. This is opened and closed by the small wheel, to which is fastened a pointer, showing when the door is open or closed, and the pointer is held in either position by passing over small pegs.

FIG. 2.

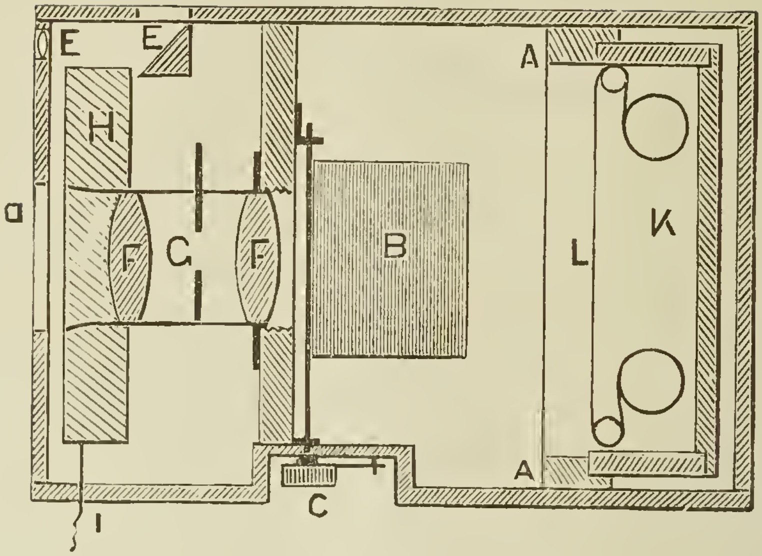


FIG 3.

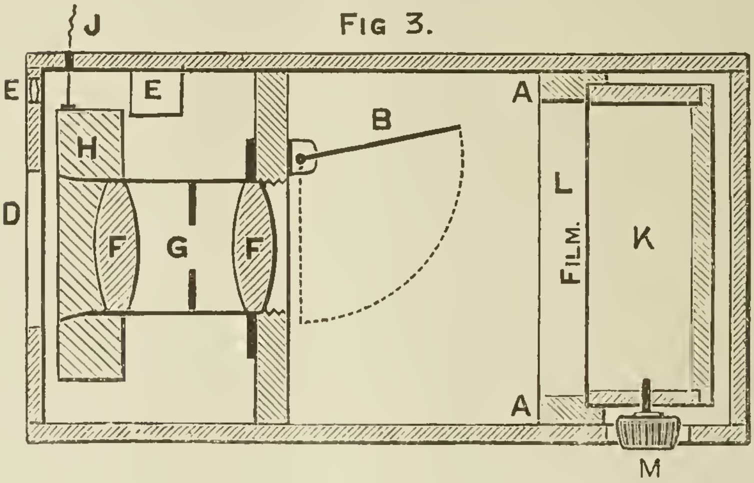


Fig. 1 shows the camera complete, the small door D shows the opening to the lens.

E in each figure is the finder.

F are the lenses.

G diaphragm.

H is a double-blind Thornton-Pickard shutter.

I the string for setting or winding the shutter.

J the string for releasing the shutter.

K roll holder.

L film surface.

M key for winding up the roll-holder; this key folds into the camera and is closed up by a door at M.

The front and the back take completely away and the roll holder slides into its place at the back after changing spools, &c.

Rambles.

MARPLE.

The ramble took place on Saturday, June 7th, and was attended by 31 members and friends, with 25 cameras; 160 exposures were made, and a fair number of prints were shown at the meeting on June 10th.

For the benefit of others wishing to visit Marple I suggest the following route, which was the one taken by us on the ramble. On leaving the station, go down the hill to the bridge and turn to the right, keeping to the road which lies nearest to the river for the whole distance. You will pass Arkwright's mill, and walk by the mill dam on your left. Soon after leaving the dam, open a gate which leads through a field, past another portion of the dam and you soon come in sight of the railway viaduct. Go through the arches and past an octagonal cottage where you can have tea, and about 100 yards further on is Windybottom Bridge on your right. Several pictures may be taken within 50 yards, on each side of the bridge, and just before tea, one may be taken to show the cottage and the viaduct. On the return journey a photograph may be got embracing the dam, &c. At about 6-30 or later, on your way back to the station, is the best time to get the weir and old mill in the village, taken from the road side it makes a very good picture.

The walk is about 1½ miles each way. One of our members, who was troubled with a whole plate camera, found it very easy to engage a light porter at 6d. an hour.

HENRY LITTLEWOOD.

ARLEY AND GREAT BUDWORTH.

The ramble to Arley and Great Budworth took place on Wednesday, July 24th. Leaving the Central Station at 9-33, for Altrincham, we soon found ourselves comfortably seated in a waggonette that awaited our arrival. Driving from Altrincham at ten o'clock, we soon left Bowdon behind, and passed through Rostherne, getting a glimpse of its splendid mere and quaint old church. On by Hoo Green, along the Warrington Road to High Leigh, until opposite High Leigh Hall we left the high road for rustic lanes, and soon found ourselves in the neighbourhood of the hunting squire. At the corner of the lane we found a guide post on which was inscribed:

> "This road forbidden is to all
> Unless they wend their way or call
> At mill, or green, or Arley Hall."

As we were intending to call at all these places, we entered this road, and shortly after the signal was given to pull up, so that we could commence operations. We began with the very picturesque old corn mill, its red brick gables being covered with ivy, and the lake in front covered with water lilies. By the side of the mill, two other good pictures were found; one an ivy covered bridge such as is not seen every day. Rambling on through the avenue of trees. (which makes a good picture) by the lake side, several other plates were exposed, and then we came to a rustic bridge across the lake. From this, on either side, a lovely scene lay before us. To the left we see Arley Hall, with its boat house at our feet; to the right we have the lake richly wooded on both sides. with the old mill in the distant background. and the foreground covered with lilies and other water loving plants, among which innumerable ducks and water fowls sport themselves. Several plates were here exposed, and others on Arley Green, a few yards further; the old half timbered ivy covered schoolhouse adding much to the beauty. Again entering our conveyance, we soon came to another guide post on which is inscribed:

"No cartway, save on sufferance here.
For horse and foot the road is clear
To Lymm, High Leigh, Hoo Green and Mere."

And directly after we read another with this inscription:

"Trespassers this notice heed,
Onward you may not proceed
Unless to Arley Hall you speed."

Taking another turn off the road we soon found ourselves in the court yard of Arley Hall, immediately in front of the old clock turret, which dates back some two to three hundred years.

Presenting our credentials we were shown through the grounds, which are very extensive and unique, and well worth a visit, if only to walk through.

While we were busy with our cameras the ladies of the party were being shown through the conservatories, green houses, &c., which they enjoyed very much. Prior to leaving the grounds your leader had the pleasure of personally thanking the squire, Mr. Warburton, for his great kindness in throwing open his very beautiful grounds to our Society. He hoped we had enjoyed ourselves, and expressed his regret that we had not had a more favourable day. We may here add that he is the author of the numerous oddments of rhyme to be found in the district.

Our next stage was a drive to Great Budworth, the privilege of going by the private road being given us. For two or three miles the drive is overhung with trees on either side; the brier, bracken and bramble growing at their own sweet will; a very paradise of nature undisturbed.

Passing through the gates (the lodge here makes a good picture or two), we drove two or three miles farther, and arrived at Great Budworth. It is only a little place, but one of those out-of-the-world old irregular villages that make pictures from almost any point.

Pulling up at the church we adjourned to host Percival's, where every preparation was in readiness to appease our appetites and make us comfortable. After tea a general attack was made on the village; the first volley being fired on the village-well at the foot of the hill. Looking inside we found the following inscribed on a tablet:

"Blessings in never ending love
Are on us, poured from Heaven above,
This running stream with ceaseless flow,
Springs from the bounteous earth below,
Alike in both His goodness shown,
Whom heaven and earth their Maker own."

Close by are two cottages, on the front of which worked in cement is the following:

"Take thy calling thankfullie,
Love thy neighbour neighborlie.
Shun the path to beggarie."

The crooked streets, ancient church, the stocks, and many little bits were soon conveyed to what few plates we had left, not one unexposed plate being brought back.

One feature of this little village is the number of figure subjects that are almost always at hand, for instance, the old grey mare with the plough boy at her head, village children carrying water, the school girl taking stock of the good things in friend Percival's window and wondering how she shall spend her coppers, "Old Abe," the arrival of H. M. Mail, &c., &c.

Just before leaving we look in the porch entrance to the George and Dragon, and find inscribed in front the following legend, which conveys a gentle hint to the customers:

"As St. George in armed array,
Doth the fiery dragon slay,
So mayest thou, with might no less,
Slay that dragon drunkenness."

On the whole the day was favourable, although the wind and occasional showers interfered with our pleasure, but the light was very fair, and the results so far as I have seen them have surprised me much and afford room for satisfaction. The following plates were exposed, Ilfords', 30; Wratten's, 25; Edwards', 15; Thomas', Manchester, Fry's and Sykes', 6 each; Water-developing, 1; Ivy Celloloid Films, 2. J. DAVENPORT.

THE VALLEY OF THE IRWELL.

This ramble was held on the 21st June, and 32 members and friends took part in it. The day was fine though "Rude Boreas" somewhat interfered with the foliage, an essential feature in almost all the river scenes. Leaving the train at Dixon Fold, close to which the first view is obtained, embracing a cottage and a pretty bend of the river, cameras were soon at work. From this point to Giant's Seat, where tea was provided for the party, the winding stream presents a considerable number of very pleasing pictures. Almost every few yards the river bends about either to the right or left, and as there is an abundance of trees and rocks, plenty of material is provided for the cultivation of the picturesque. One of the views embraces the private wooden bridge belonging to the Pilkington's, who own most of the land in the district. It makes a good picture from either side. The farmer, on horseback, was induced to stand on the bridge for a few minutes while our friends uncapped for the scene. In the adjoining meadows the hay makers were busy with the hay harvest and these could have been requisitioned had there been time or lack of subjects. As it was necessary to trespass in the fields, permission was obtained for this purpose from the adjacent farm. Afterwards other pictures were got on the way to Clifton Station, from which the return journey was made to the city. One hundred and fifty-two plates were exposed.

GEO. WHEELER.

Eikonogen Developer.—Mr. H. Wilkinson of the Liverpool Amateur Photographic Association gives the following formula as being largely used by the members of that society, who consider it "the only developer." This is very high recommendation, and we should like the members of the M.A P.S. to give it a fair trial and report upon its capabilities

No. 1.		No. 2.	
Sulphite of Soda	2 oz.	Washing Soda	1½ oz.
Eikonogen	240 gr.	Water to	10 oz.
Water to	30 oz.		

For instantaneous exposures take No. 1, 1½ oz. and No. 2, ½ oz.

For instantaneous with isochromatic plates take No. 1, 9 drams, No. 2, 4 drams, water 3 drams.

For time exposures use less of No. 2, making up the difference with water.

It may be used over and over again but gets slower each time.

If density is too long in coming, half a dram of a 10 per cent. solution of potash will not only hasten development, but possibly give more detail when the plate is much under-exposed.

Correspondence.

To the Editor of the *Photographic Record.*

A GUIDE BOOK TO VIEWS.

Sir,

Landscape photography is a charming pursuit, but it is not without its drawbacks. There is no nonsense about carrying a whole-plate camera for a few hours under a broiling sun, especially if the burdened one be in a strange county, and happen to have taken the first turning to the left instead of the right. What assessor can value a negative which was the *only* result of such a day's toil? The amateur photographer, carrying half-plate and upwards, ought to rank at once among the "world's great workers." Now, as time is the consideration with most of us who pursue *l'art facile*, I think we may effect for each other some saving both in time and toil. It is important to know in which part of a given district the picturesque lies, as those who turned up on the last Lymm ramble can practically demonstrate. Would it be possible to prevail upon you, Mr. Editor, to devote a portion of your pages during the winter issues of the *Record*, towards forming a sort of Guide Book to the picture spots round Manchester? True, our reports of rambles are supposed to do this, but they do not serve the purpose. Doubtless, some of our older members would furnish the information, and it might pay our Committee to issue it in the form of a booklet.

Trusting the idea will be taken up,

I remain, Yours &c.,

X.

Antiquity of Lenses.—"A lens has been found among the ruins of Nineveh, a city which was destroyed more than a thousand years before the birth of Christ. This lens is now in the British Museum. During the middle ages the manufacture and properties of simple lenses were well understood in Europe."—*W. Jerome Harrison.*

Intensification by Hydroquinone.—This developing agent will be found to act with excellent uniformity for darkening the film after bleaching, and there is freedom from the metallic stains which often follow the use of ammonia. It is preferable to use the hydroquinone simply dissolved in water without any other substance, but if it is only in stock as a solution with sulphite of soda added as a preservative, this may be used, as the latter salt is often employed by itself for the same purpose, though it is subject, more or less, to little irregularities.

Our Wide Angle Lens.

Acid Sulphite of Soda—This chemical has been rediscovered in America as a photographic help, and some of our English magazines having caught the infection, are devoting paragraphs and pages to herald its advent. That we may not appear to be behind the times we "fall into line," although some of our members have regularly used this "new acid-sulphite" for years past in their operations. It is a valuable agent and deserves to be better known. Hitherto we have been short of definite formulæ; we have had the substance, but the proper proportions for compounding with success have been comparatively unknown. This is now being supplied. As a preservative it is much superior to the ordinary sodium sulphite which is in general use, and it acts well for clearing purposes. If used with the fixing bath, it not only clears the negative from stains, producing a rapid printer, but the plate is fixed in a much shorter space of time than when it is absent. Some of the papers speak of it in such eulogistic terms that one might imagine that the day of imperfect negatives has terminated, but these fulsome praises must be "taken with a pinch of salt" "Anthony's Photographic Bulletin" speaks very highly of the chemical, and provides details. It says: "If to a quart of fixing bath (1 to 4) we add about two ounces of the acid-sulphite solution, the bath is rendered acid, but no change takes place otherwise. In this bath any negatives can be fixed, and with a rapidity and clearness that is really startling. Some of the slow varieties of plates are remarkably long in the ordinary bath before they are fixed nicely; but in the new acid-sulphite and hypo bath they fix in about one-fourth of the amount of time ordinarily taken. And what is yet more pleasant to note, they are remarkably clean and free from stain. In fact, they look exactly like plates developed with ferrous oxalate after they come out of the new bath, although they may be badly stained before fixing. The new fixing bath is beyond question the best remedy for stained plates from organic developers. One thing must certainly be remembered at all times, the fixing bath must be kept acid by the addition of new acid-sulphite solution from time to time in order to have it maintain its efficiency as a clearing bath. If the proper care is exercised, the use of the alum clearing bath can be entirely omitted when the new acid-sulphite solution is used; thus eliminating a step in the present negative process when clear, crisp and quick negatives are desired.

We must now say something about the application of the acid-sulphite to the developer. With pyrogallol the application is very simple; to every grain of pyro in solution add one drop of the acid-sulphite solution as a preservative. Thus, you may take

Pyrogallol	1 ounce
Acid-sulphite	1 ,,
Water to make	10 ,,

This solution contains five and a half grains of pyro to the fluid dram, and will keep a long time. To develop: in one ounce of water use from one-half to one fluid dram of the above solution, with from one and a half to two fluid drams of alkaline solution, made as follows:—

Sodium Carbonate (crystals)	5 ounces
Water to make	10 ,,

In the case of eikonogen, it works equally as well as with pyro. In this case the formula becomes:

Eikonogen (finely powdered)	1 dram
Acid-sulphite	1 ,, (fluid)
Water to make	10 ounces

Dissolve the eikonogen first, then add the acid-sulphite. This solution contains three-quarters of a grain of eikonogen to the fluid dram, and keeps as well as the pyro mixture above. In developing, if sodium carbonate is used, to every ounce of the eikonogen solution, add from one to two drams of the solution given above for pyro, and no water. If carbonate of potassium is preferred, use one to two drams of the following solution:

Potassium Carbonate (dry)	3 ounces
Water to make	10 ,,

In each case the negatives come up clear and full of detail, without any tendency to fogging. Judged by experience with the ordinary developers, these new mixtures with acid-sulphite work a little more quickly; and if the negatives are fixed in the acid-sulphite fixing bath, the results leave nothing to be desired as to quality.

With hydroquinone we have not yet obtained any desirable results, the mixtures tried working much too slowly to be of practical use.

As the developers given above work more rapidly than those ordinarily employed, care must be taken in regard to the light used in the dark room, that it is of the proper non-actinic quality. It is best to use as little light as possible under any circumstances, but always enough to see what you are doing.

We are sure that those who use the new acid-sulphite of sodium will find it a great help to the production of clean stainless negatives, closely resembling those of wet-plate days."

Tinting Opals.—This is easily done by backing the white opals with a piece of blue, orange, or other coloured paper, which must be attached neatly, so as not to show at the edges. The translucent nature of the opal allows the colour behind to impart a delicate tone to it, and this may be changed or renewed at will.

Reduction of Negatives.—A new method of reducing over-dense negatives is given in *Photographisches Archiv.* Soak the plate for half an hour in water, then transfer it to the following :—

Water	3½ ounces.
Sulphuric Acid	60 minims.
Solution of 3 parts of Bichromate of Potas in 100 parts of water	90 minims.

It acts with energy. The reduction is uniform, and there is no staining.

Bleaching Solution.—Mr W. J. Harrison recommends it to be made of ¼ oz chloride of ammonium, and ¼ oz. bichloride of mercury dissolved in 10 oz. of water. It may be retained for future use.

Green Glass for Weak Negatives.—A considerable increase of contrast may be obtained in the prints from weak negatives by filtering the light through green glass. The piece of glass may be inserted in the printing frame before putting in the negative, or it may be laid on the top of the frame. The time required is much longer than the ordinary method, but the printing may be done in direct sunlight without any harm to the print. The method is also useful for albumenised and Obernetter papers. It is important to print deep. Matt papers require very little washing before toning, while albumenised papers need a thorough washing, and tone slowly.

Old negatives which have faded until the image on them appears to be almost gone, are amendable by this treatment, and will produce a print which is really remarkable for vigour.

Toning Bath.—A good black tone may be got by using the following bath :—

Borax	1½ drams.
Nitrate Uranium	4 grains.
Gold	3 or 4 grains.
Water	20 ounces.

It may be used repeatedly if more gold is added.

A member wants to know how to reduce silver prints. Let him send them to Mr. Wilcock for distribution among the hospitals; it will save a lot of trouble. This method of reduction will also apply to platinotypes, bromides, or any other style of photograph which members may have in stock.

Vignetting.—Innumerable dodges have been invented for producing the vignette effect; some have been patented, some have been sold as secret processes; but, after all, the simplest way of all seems to give as good results as any other. An opening is made in a piece of cardboard or other stiff material. This opening is made of the shape that the image is to be, but a little smaller, and the cardboard is fixed in front of the printing-frame whilst printing goes on in diffused light, or, better still, with a piece of tissue paper over the opening cut in the cardboard. The softness of the vignette depends on the distance between the negative and the cardboard. The greater the distance, the broader the portions through which there is shading off. With most printing-frames it is sufficient to fix the cardboard—with drawing pins or otherwise—to the front of the frame. It is my practice. if this arrangement does not give sufficient softness of shading, to pinch the edges of the opening upwards with my finger and thumb. It is often necessary to modify the vignetting board by cutting out bits here and there or by cutting new boards entirely a trial print being made after each modification before the most satisfactory results can be got. The negative that lends itself best to the production of vignettes is one full of detail, and giving a somewhat soft print.—*Prof. Burton.*

Question Box.

Cold v. Hot Process in Platinotype.—I am thinking of commencing to print in platinotype, and would be glad to know what are the advantages of one process over the other?

Ans.—The cold process has been introduced to meet certain difficulties in the hot process. In the latter there is some trouble in having to be so exceedingly careful about the dryness of the paper, and in having to use hot solutions. The trouble is not, certainly, serious, but there is the farther fact that, with a given negative, there is but little latitude in the effect producable, and that, moreover, the negatives needed for the process are, on the whole, a little denser than those that do best for common silver printing. With the new "cold bath" process there are none of these difficulties. The paper contains an iron salt only, and the *developer* contains the platinum that is necessary to form the image. The paper, if stored for any length of time, has to be kept in calcium tubes, but no particular care is necessary to prevent slight dampness in the printing frames. In fact, some trace of dampness, such as paper will absorb from the atmosphere in a few minutes, or in very dry weather in an hour or two, is necessary to get the best results, and it is on account of the fact that the effect is different according to the length of time that the paper remains out of the calcium tube before development. Thus, if the print be quickly made and be developed at once, the contrast will be great, the half-tone but slight, and this is what is wanted in printing from a thin negative. If, on the other hand, the print be put on one side for a few hours after printing, there will be less contrast and more half-tone, and thus it will be possible to get a harmonious result from an over-dense negative.

Stains on Bromide.--What is the cause of the stain or fog on bromide paper, produced by the Jumeaux developer?

Ans.--They are alkali stains caused by prolonged development. Lengthen the exposure and add to each ounce of the developer 2 or 3 drops of a 10 per cent. solution of bromide of potas.

Intensification.—How can I remove a lot of stains from negatives which have been intensified with bichloride of mercury and ammonia.

Ans.—Clear out the old intensification by immersing the plate in hypo. Then thoroughly wash--very likely the old stains arose from bad washing—and commence bleaching again. In place of ammonia try eikonogen to darken.

Sale and Exchange.

[*Our Sale and Exchange columns are open to subscribers free; to non-subscribers a charge of 4d. will be made up to 12 words, and ½d. per word extra.*]

FOR SALE. Quarter-plate Camera, 3 double dark slides and tripod. Old pattern, but sound; without lens. Price 25s. Apply, Pyro., per Editor, 46, King Street West, Manchester.

WANTED. A Detective Camera, arranged for films; must be cheap and in good condition. E. R., per Editor, 46, King Street West.

ON SALE. Lancaster's ¼-plate 1890 inst. 6 Double Slides, "Optimus," 5 x 4 R. R. lens, Thornton-Pickard time and inst. shutter, Camera fits in box with finder for detective work. New condition, cost over £6, price £4 4s.

Half-plate as above, with "Optimus" 7 x 5 R. R. lens, no shutter or tripod. Cost £5. price £3 10s. Apply, E. J. W., 39, Barnes Green, Manchester.

All *business* communications to be addressed to the Hon. Sec., Mr. R. O. GILMORE, Solicitor, 1B Cooper Street, Manchester.

Items for the Sale and Exchange Column, Correspondence, Question Box, &c., should be addressed to the Editor, Mr. GEO. WHEELER, 46 King Street West, Manchester.